THE

MEDICAL AND SURGICAL REPORTER.

No. 1412.] PHILADELPHIA, MARCH 22, 1884. [Vol. L.—No. 12.

ORIGINAL DEPARTMENT.

LECTURE.

THE CIRCULATION IN THE NEWLY-BORN.

BY W. S. FORBES, M. D.,

Demonstrator of Anatomy, Jefferson Medical College.

GENTLEMEN: In the new-born child, at full term, the blood is not *drawn* into the pulmonary arterial branches and into the lungs by the expansion of the lungs, as is generally believed and taught; on the contrary, it is *forced* into and through the pulmonary artery, and its right and left branches, and into the lungs, by the contraction of the right ventricle, and by the elasticity of the walls of the pulmonary arteries; while at the same moment it is prevented from going through the ductus arteriosus and into the aorta by a procedure that I now wish to point out and demonstrate to you.

In the very young fœtus the thorax and abdomen form one cavity, as in birds, reptiles, and fishes. The diaphragm in the fœtus is developed by a process of growth from the circumference to the centre, and when developed is in a passive state until birth. In the new-born child, at full term, the muscular diaphragm is called into immediate action, and in contracting performs at once a most important function in compressing the ductus arteriosus, thereby diverting the current of blood into the two branches of the pulmonary artery, which go respectively to the right and left lung. The peculiarities in the arterial system of the fœtus are the communication between the internal iliac arteries and the placenta by means of the umbilical arteries, and the communication between the pulmonary artery and descending part of the arch of the aorta by means of the ductus arteriosus. In the fœtus and up to birth, at full term, the long axis of the heart is more nearly vertical than in the adult, and the right and left branches of the pulmonary artery are, relative to the main pulmonary artery, very small, and come off from the posterior aspect of the artery, while the ductus arteriosus at this period is much larger, and is in front of the branches and nearer the sternum, and is in fact the continuation of the main pulmonary artery to the arch of the aorta, into which it opens just below the origin of the left subclavian artery, and so conducts the current of blood from the right ventricle into the arch of the aorta.

In order to show you the way in which the contraction of the muscular part of the diaphragm closes the ductus arteriosus by causing pressure upon it, I shall have to demonstrate to you the pericardium, through the fibrous wall of which sac the ductus arteriosus runs to reach the arch of the aorta.

The pericardium is a conical fibro-serous sac, in which the heart and the first part of the great blood-vessels are contained. The inner serous portion of this sac invests the outer surface of the heart everywhere, and is reflected from the heart to the inner surface of the outer fibrous portion of the sac. The base of this conical fibro-serous or pericardial sac is attached to the upper surface of the broad aponeurotic central tendon of the diaphragm. At the upper part, or towards the apex of the cone, the fibrous portion of the sac has a number of openings in it for the lodgment of the great blood-vessels which go to and come from the heart. Now this fibrous pericardial sac is composed of the same tissue as that which we find

composing the outer membrane or sheath of the great blood-vessels; and it is lost upon or continuous with the fibrous sheath of these great vessels, the largest of which is the aorta. The great vessels issuing from and going to the heart are supported in their relative positions while going through the fibrous pericardial sac, which at the same time forms tubular prolongations upon them. On the posterior aspect of the fibrous pericardial sac oblique and transverse fibrous bands are found, thus strengthening the sac and making a sort of fibrous scaffolding for the support and protection of the great cardiac vessels and the heart itself.

From the superior right and left external lateral surfaces of this pericardial sac, prolongations of the fibrous tissue continue upwards as strong bands to the inner margin of the first rib on each side of the thoracic cone, and then coalesce with the thoracic fascia described by Sir Astley Cooper in his little work on the Anatomy of the Thymus Gland. Sir Astley says: "The thoracic fascia performs three important offices: 1. It forms the upper boundary of the chest, as the diaphragm does the lower. 2. It steadily preserves the relative situations of the parts which enter and quit the thoracic opening. 3. It attaches and supports the heart in its situation through the medium of its connection with the aorta and larger vessels which are placed at its curvature." Now this thoracic fascia of Cooper is supported above by the deep cervical fascia, which is strongly attached to the transverse processes of the cervical vertebræ and to the stylo-maxillary ligament on each side of the base of the skull. We find, therefore, on each side of the body of man a continuous fibrous plane, inelastic and inextensible, reaching from the base of the skull and the upper part of the vertebral column, and extending to the cordiform appendage or central tendon of the diaphragm.

These two lateral planes thus reaching from the diaphragm to the upper part of vertebral column and to the base of the skull are, as it were, two superior crura of the diaphragm which *prevent the descent* of its central tendon when the muscular part of the diaphragm contracts in respiration.

Indeed, if the central tendon of the diaphragm, with its attachment to the base of the fibrous pericardial cone, were to descend, or if any part of the two extensive fibrous planes I have pointed out to you were to give way, what a pernicious effect such an accident would have upon the heart and great cardiac vessels! The fact is, the entrance and the exit of the cardiac vessels through the openings of the fibrous pericardial sac hold a fixed and unvarying relation to the vertebral column. Thus the ascending vena cava enters the fibrous pericardium through the highest part of the central tendon of the diaphragm at the lower anterior aspect of the right side of the ninth dorsal vertebra; it here goes through a tendinous quadrangular opening, but receives no covering from the fibrous margin.

The descending vena cava enters the fibrous pericardium at the anterior aspect of the lower part of the right side of the fifth dorsal vertebra, and receives a fibrous prolongation from the pericardium. These openings into the fibrous pericardial sac of the two venæ cavæ do not change, nor does their relation to the vertebral column vary; they are fixed. I must remind you just here that the three layers of lumbar fascia, sheathing the quadratus lumbarum and erector-spinæ muscles of each side, and attached to the spines of the sacral and lumbar vertebræ and to the crest of the ilium, and to the lower border of the twelfth rib, perform the same function in keeping the lateral aspects of the base of the thoracic cone from being drawn upwards by the attachments of the muscular diaphragm, that the lateral fibrous planes or the superior crura of the diaphragm which I have demonstrated to you as being attached to the processes of the cervical vertebra and through the base of the skull, do in keeping that part of the central tendon of the diaphragm embraced by pericardium from being drawn downwards. The quadratus lumbarum muscle reaching from the crest of the ilium to the twelfth rib, assists to hold, as it were, the base of the thoracic cone, while the lateral muscular planes of the diaphragm reach from this twelfth rib and the ligamentum arctuatum extend to the lateral aspect of the base of the precordial cone and thus make it tense.

We have the liver, which weighs four pounds avoidupois, suspended from the dome of the diaphragm by means of the suspensory or falciform ligament, just beneath the right fibrous plane, which is vertical in its direction from its attachment to the cervical portion of the vertebral column and the base of the skull. This four-pound liver, the largest gland in the human body, is then really suspended from the cervical portion of the vertebral column, and from the base of the skull through the deep cervical fascia and the stylo-maxillary ligament. Along the sides of the two fibrous planes I have pointed out, we have the great cervical-blood vessels lodged, as upon a

scaffolding, and in the thorax the phrenic nerves descending upon it to reach the diaphragm.

The ductus arteriosus is lodged in an elliptical opening in the fibrous scaffolding beneath the arch of the aorta. It escapes through this opening to reach the descending portion of the arch of the aorta, which is outside of the fibrous pericardial sac. This elliptical opening for the lodgment of the ductus arteriosus in its long axis extends obliquely from above, downward and forward, and to the left, going in front of the descending aorta, and above the left branch of the pulmonary artery. The tendinous fibres forming the margins of this elliptical opening embrace the ductus arteriosus, and are connected to its external coat by connective tissue.

The muscular fibres of the diaphragm contracting at the first inspiration at birth, bring together the margins of the elliptical opening in the fibrous scaffolding, and thus compress the ductus arteriosus, and eventually close it—thus changing the current of the blood from the ductus arteriosus into the right and left branches of the pulmonary artery. Especially is this compression made by the contraction of those muscular fibres of the diaphragm which ascend upon and are attached to the anterior left aspect of the pericardium, and which are so easily observed in the young child.

The alternate pressure and relaxation made on the ductus arteriosus by the contracting diaphragm, is exactly similar to the procedure we now adopt in closing by pressure the main artery in cases of aneurismal tumors, and the effect in both instances is exactly the same. When the ductus arteriosus is being compressed by the contraction of the muscular diaphragm, the right and left branches of the pulmonary artery going to the lungs are being distended and permanently enlarged until their united capacity is equal to the entire volume of blood in the main pulmonary stem, and thus the collateral circulation is eventually established with the aorta by means of the appropriate organs (the blood going through the ramifications of the pulmonary arteries, through the pulmonary capillary into the pulmonary veins, and to the left auricle, and thence into the left ventricle, and thence into the aorta). The walls of the ductus arteriosus in the meantime, being compressed, coalesce and become permanently closed. In some cases the ductus arteriosus is entirely removed by the pressure, so that not even a vestige of the fibrous cord is to be found. The contraction of the muscular diaphragm not only in this way closes the ductus arteriosus, but at the same moment holds open the gateway, as it were, of every vessel going into and out of the fibrous pericardium. For if one stands or sits erect and straightens the vertebral column, and at the same time contracts his diaphragm, taking a long breath, he feels more comfortable, because these gateways are thus held open and the blood goes to and comes from the heart with greater facility than if they were not held open, as they are not held well open when one sits in a stooping or doubled-up posture. By instinct, as it were, we straighten ourselves when we wish to breathe easier. In the anatomist's eye, it is because the gateways of the heart are held open and tense, and the blood goes into and comes out of the heart and great arteries with greater facility, and the sides of the pericardium being drawn tight by the contracting muscular diaphragm, the heart itself is protected from lateral pressure between the expanding lungs.

The lateral muscular portions of the diaphragm in contracting usually descend, and thus the vertical diameter of the thorax on each side is extended. But they may not be permitted to descend by the stronger abdominal muscles contracting, or by tight lacing, as in the case of some women of fashion; nevertheless the muscular diaphragm, though it may not be permitted to descend, contracts on its own plane, and makes tense its *superior crura* and the *fibrous scaffolding*, and thus exerts its influence in holding open the gateways of the cardiac vessels and in protecting the heart itself from lateral-lung pressure, and thereby promotes the circulation of the blood and protects the central organ of the sanguiferous system.

The descent of the lateral portions of the diaphragm is not necessary to respiration; this is manifest from ordinary observation; but the *contraction* of the muscular diaphragm, though it may not be permitted to descend, is necessary in order to protect the heart from the movement of surrounding viscera, and in order to promote the free circulation of the blood through the vessels forming the cardiac roots. This statement is verified in the clinical histories of injuries of the phrenic nerve and of the diaphragm.

If one side of the muscular diaphragm does not contract on account of paralysis of the phrenic nerve of that side, then that side of the fibrous pericardial plane is not held tight; it is in a relaxed state, and the lung on that side expanding presses it against the heart.

In bilateral paralysis of the diaphragm, the heart is pushed backwards by the lungs advancing in front, while at the same time it is com-

pressed on each side: the heart's action then is always labored.

The anterior and lateral attachments of the diaphragm to the base of the thoracic cone cause the epigastrium and right and left hypochondriac region, in cases of bilateral paralysis, to become depressed. Duchene informs us that if in these cases the phrenic nerves be galvanized, the diaphragm acts again with proper strength, and during inspiration the thoracic and abdominal walls rise simultaneously, and then there is no longer a depression in the epigastrium and hypochondriac regions.

If we examine the natural history of the diaphragm, we observe that it is first found in mammals. These animals require a diaphragm to protect the central organ of circulation from the encroachment of the neighboring lungs and abdominal viscera, and by its contraction act in protecting as well as promoting the function of the heart.

In birds, and in turtles and tortoises, such an organ as the diaphragm is not required. In these animals the thoracic and abdominal viscera are in one and the same cavity, but the movement of the lungs is limited by means of pleural attachments, and the heart and its great vessels are protected by peritoneal folds which form restrictions by being attached to distant points of a rather fixed bony frame-work. In these animals the diaphragm is not found, as it is not needed.

To sum up, then, I have endeavored to demonstrate to you that—

1. That portion of the central tendon of the diaphragm embraced by the base of the pericardium is prevented from descending in inspiration by the *superior tendinous crura* of the diaphragm, which are formed by the lateral parts of the fibrous pericardium reaching on each side to be attached to the first rib and through the deep cervial fascia to the transverse processes of the cervcial vertebræ, and through the stylo-maxillary ligament of eithr side to the base of the skull.

2. These superior tendinous crura of the diaphragm are connected together inferiorly by transverse and oblique fibrous bands, thus forming a fibrous scaffolding for the support and protection of the heart and the great cardiac vessels.

3. The opening in the fibrous scaffolding for the lodgment of the ductus arteriosus in fœtal life is closed at birth by the contraction of the muscular diaphragm, and especially by those muscular fibres ascending on the fibrous pericardium from the anterior left side of the diaphragm, which muscular fibres are well developed in the newborn child.

4. That the blood at birth is *forced* into and thorugh the pulmonary artery and its right and left branches and into the lungs by the contraction of the right ventricle of the heart, which at this moment has its walls as thick as those of the left ventricle, and by the elasticity of the pulmonary artery, and is not *drawn* into the pulmonary arterial branches and into the lungs by the expansion of the lungs, as has been heretofore taught.

5. The superior fibrous crura and the fibrous scaffolding between them are made tense, and their openings made patulous for the lodgment and the protection of the heart and its great vessels, and for the promotion of the circulation of the blood through them by the contraction of the muscular diaphragm.

6. The opening of the inferior vena cava, the highest point in the central tendon of the human diaphragm, holds a constant and fixed relation to the right anterior inferior border of the ninth dorsal vertebra.

7. That in the contraction of the muscular sides of the diaphragm they may be prevented from descending by the contraction of the stronger abdominal muscles acting upon the abdominal viscera. Though not permitted to descend in contracting, the muscular diaphragm still makes tense the crura.

8. The diaphragm, we may believe from its clinical as well as from its natural history, is rather an appendage to the circulatory apparatus, and not "essentially the chief agent in respiration," however much it may assist in performing that function.

COMMUNICATIONS.

LEGAL REFORM DEMANDED IN THE TREATMENT OF INEBRIATES.

BY T. O. CROTHERS, M. D.,

Superintendent Walnut Lodge, Hartford, Conn.

The following case is by no means uncommon, and points out a positive wrong, and source of danger that must be met and remedied by the teaching of physicians.

The general wholesale way in which persons arrested for intoxication are fined and imprisoned, carries conviction that this is not the true remedy, the application of which is only governed by the number of the offense.

In reality, the better judgment of courts and prison authorities condemn this means, and only

carry it out from a necessity which has no other resource.

By a strange combination of events, the penal code concerning inebriates has not changed for over two thousand years.

The teaching of the old Grecian law-giver that drunkenness could best be prevented by punishment, has been so persistently urged by moralists that it has survived all civilization and progress, and appears in modern courts of justice, a literal relic of the dark ages.

Any inquiry of prison authorities will reveal the fact that large numbers of inebriates are repeatedly being returned to prison for the same offense over and over again, growing steadily worse. Also, that a short term of imprisonment at first really destroys them, and makes recovery almost impossible, and is followed by repeated sentences for the same cause. Ninety-nine per cent. of all persons who come to jail for inebriety the first time are returned, and become incurables dating from that event.

These facts are accessible and can be proved by the records of courts and prisons, all over the land.

Yet every effort to legislate on a higher plane of justice and humanity, is resisted by theological dogmas of the nature and character of inebriety.

The fear of taking away personal responsibility, and thus encouraging inebriety, by calling it a disease, has kept alive this theory of punishment with the most disastrous results to the victim.

A noted judge remarked, as long as society supports such views, the inebriate can never recover, but will be always destroyed by this means to help him.

The case which I shall present for study to support these views came into possession of a large property late in life, and the question arose as to his mental capacity to care for and will this property to others.

A very careful study was made of his past history, which was placed in my hands for a decision.

Most of the leading facts were fully confirmed by other evidence, so its accuracy was unquestioned.

H—— was born and reared on a farm. His father was temperate; his mother was inclined to melancholy, and died soon after his birth of consumption.

He grew up to fifteen years without any peculiarity, except great sensitiveness to slights, and a morbid fear that he would not be considered equal to others of the same social standing.

After he passed puberty he became very proud and egotistical, and resented with violence any opposition. After an attack of anger he would be prostrated, and lie in bed a day or more.

At seventeen years of age he was violently opposed in a love match, and seemed to have suffered from a shock to his nervous system, which lasted over a year, manifest in a changed disposition and low state of health, which caused him to remain in bed from one to four days at a time. He joined a church, and became an active temperance worker, although he had not used spirits at this time.

At twenty he left the farm, having a fair academic education, and entered a manufactory. He was at this time temperate, and in good health. Five years later he married, and was in good circumstances; the only feature of his character was great pride, and scorn of low ways of living and manners.

At thirty-one years his wife died, and the firm failed, throwing him out of employment; and soon after, he began to drink to intoxication. Distinct periods of low spirits and depression came on, which always ended in a paroxysm of drinking. When this was over, he seemed more proud-spirited than ever, and more determined to win the respect of others.

At about this time he invented a machine which proved a source of wealth, and placed him in easy circumstances. From this time no event of note took place, except an irregular paroxysm of drink from two to four times a year, until he had reached forty, when one day, while drinking, he committed an aggravated assault on a stranger, and was arrested. He denied all knowledge of the event, but the court fined him heavily. The publicity of this distressed him, and he claimed to be sick for some weeks after.

Soon after, while drinking, he became violent, destroyed much property in the saloon where he procured his liquor. He was arrested and fined. From this time each drinking paroxysm was marked by some violence to persons or property, for which he was arrested, and at last sent to jail.

After this first imprisonment a total change of character took place. He was reckless, bold, and sought the lowest company; boastful, quarrelsome, drank constantly, lost personal pride, had no ambition for anything except to drink and play cards. He lost his property, and became a bar-keeper and low gambler, and was sent to jail for drunkenness and assault eighteen times in eleven years. He then became involved in a bank robbery and was kept in prison for two years.

After this he was so violent after drinking as to be considered insane, and was sent to an insane asylum. He was discharged as a drunkard, and not insane.

For the next seven years, up to the time he came under my observation, he had led a roving life as a tramp, spending all his time in station-houses, almshouses, and on the road traveling.

The same violence marked his periods of excessive drinking, only less vindictive. He was feeble in mind and body, had delusions of strength to stop at will, attributed all his misfortunes to a plot of some enemies. Was very religious at times, and full of hope; then would display a degree of petty meanness, indicating the lowest motives. He would steal at times, and show much cunning to conceal it.

Physically, he was anæmic, had cirrhosed liver and fatty heart, had a trembling, uncertain gait, complained of pain in his head and tender spots along the spine. His memory had failed. He affirmed that he could never recollect after drinking a certain amount of spirits. He gave up the use of all strong liquors except beer and bitters, and insisted that he had reformed.

The question was on his mental capacity to care for, and dispose of property. He had been living quietly and regularly in a good home when I was called, and was greatly improved in general health. Two physicians had given an opinion that he was fully sane, and capable of managing his property.

To this I totally dissented, for the following reasons:

1. He had evidently inherited a degenerate nervous organization, which developed into inebriety from the mental shock at the loss of his wife.

2. This was further strengthened by the destructive or violent delirium which accompanied each attack of drinking.

3. The repeated imprisonment for these offences increased the mental degeneration, still farther developing all the conditions of chronic inebriety, and soon in a total change of character and habits of living.

4. The integrity of the brain was permanently impaired by the various circumstances of life. His delusions of strength to stop at will, and of persecution, as well as religions paroxysms and other minor phases, was evidence of this.

The history of a trance state, in his loss of memory at these violent periods, was also distinct in his senseless assaults and unusual acts.

My opinion was not adopted, and in two months after coming into possession of his property, he opened a grand saloon in an obscure country village, and imported a large amount of choice wine.

After drinking to intoxication, he destroyed most of the gilded fixtures, seemingly as a matter of pleasure. Finally, his property was put in the hands of trustees, and incipient paralysis has already appeared.

This case was largely the result of dangerous penal methods of treatment. His first imprisonment increased the very disorder it was designed to relieve. He was made more hopeless and incapable of rising above his diseased impulses, by the prison treatment The state actually educated and forced him into the lowest stage of degeneration.

Pecuniarily the problem is a startling one. It cost the tax-payers to take care of him in jail not less than three thousand dollars, with no result but to make him worse.

Had his malady been fully recognized at first, and he been committed to a workhouse hospital for this class, recovery would have most naturally followed. In such a place the mind and body would have been built up, and he would have been fitted to take place as a producer in society, and not unfitted and made more incompetent to go back into healthy society and living. Hundreds of cases are thrown into prison on the general principle that the shame of this punishment and the suffering which comes from it will deter them from drinking again, the result of which is to crush out the very element upon which recovery depends. All that the prison can do for the inebriate is to remove him from alcohol; what it fails to do, is to build up the weakened brain and nervous system. Prison diet and hygienic surroundings can never restore the weakened organism. The psychical influence of prisons leave an impress that can never be estimated.

The bad associations, the wounded pride and ambition, and the crushing out of that unknown element which gives tone and vigor to the organism, and sustains it in the hour of peril, are all factors whose effects can be fully realized.

A great reform is demanded in the penal treatment of inebriates, and the public look to the medical profession for help and guidance.

To send all cases to jail is obviously as great an error as it would be to amputate all cases of fracture of the lower extremities.

These cases must come under medical care and study, and should be quarantined in hospitals by themselves, and special appliances hunted out for each one.

It is a scientific problem, as well as social and pecuniary, and its solution is demanded from all sides.

The facts upon which it rests are within the range of every medical man, and the time has come for change and reform.

THE UNKNOWN FACTOR IN THE EQUATION OF THE NERVOUS SYSTEM.

BY J. M'F. GASTON, M. D.,
Atlanta, Georgia.

The Action of Medicine on the Cure of Diseases.

This is a question of different import from that of the action of medicines *in* the cure of diseases, which implies an investigation of the rationale of medication, and its proper effect upon the disorders of the organism; and thus being in its character essentially physiological and pathological, it is not directly involved in the results of clinical observation. The aim and end of the proposition which is here submitted for consideration, is understood to be a systematic analysis of the facts which are developed in connection with the influence of medicinal agents upon the human system.

If the most enlarged scope of inquiry be allowed in this field, the question may be opened as respects the salutary result from the resort to medication in any case, and the propriety of abstaining from the use of medicine.

As this point should be put at rest before proceeding any further with the definition of our subject, it may be proper to set aside all skepticism in regard to the sum total of good or evil that results fram the indiscriminate or even injudicious employment of medicine, and eliminate all guessing from the proofs of medicinal effects upon the system.

While it is well-established by recent statistical records, that many acute diseases run their course favorably without medication, and that we may reasonably depend upon the *vis medicatrix naturæ* in some cases, yet the salutary influence of medicine upon the majority of diseases is clearly demonstrated by the practical results in the daily experience of physicians. There may be instances of sickness for which medicine is not indicated, but our concern is about those cases for which it is requisite; and the object of our inquiry respecting "the action of medicine on the cure of diseases," is to determine the mode in which it may be employed to the best advantage. "Medicine is any substance, liquid or solid, that has the property of curing or mitigating disease," and our investigation pertains to the most efficacious means of cure. It is no part of my undertaking to solve the intricate problem of the quality of the various medicinal agents, nor to decide upon the relative effects of the different classes of remedies. Accepting the great cardinal distinction of drugs, according to their special influence upon the animal economy, I propose to delineate from the observations made by others, and from my personal experience, the characteristic effects of medication upon the human organization.

The influence of subcutaneous and other medicated injections upon the vital functions, illustrates strikingly "the action of medicine on the cure of diseases," and I trust that this phase of medicinal influence may be recognized as being completely within the sphere of inquiry submitted in this proposition.

As the nutriment of the body is introduced through the stomach, it might be naturally inferred that the general system should be also medicated by the same channel. The fact, however, must be taken into consideration, that the food undergoes various changes in the process of digestion and assimilation, which are not requisite for the effects of medicine upon the organism. The influence of most medicinal agents is to some extent impaired by the action of the gastric juice, and by admixture with the alimentary substances in the stomach. In view of this complication, a direct route to the sanguiferous and nervous systems, by the immediate absorption of medicine, has been found more certain in manifesting its appropriate therapeutic effect. This is seen in the *immediate influence of the medicine upon the nerve fibres* when injected into the areolar or cellular tissue.

The circuitous route through the entire system of veins and arteries, is not at least requisite to produce the effect of those medicinal agents directed especially to the nervous development.

Facts do not sustain the doctrine inculcated by Headland, that medicinal agents must enter the circulation and take the rounds of the blood, before their effects can be exhibited upon the animal economy. I appeal to all who have witnessed the almost instantaneous influence of anodyne injections into the areolar tissue, to correct this view of the action of medicines, when used by the hypodermic process, or when injected into serous or mucous cavities. Being impressed with the insufficiency of the experiments, and the faultiness of the reasoning, by which his proposition is claimed to be sustained, I have to draw attention to a few points that show this weakness.

The inference drawn from the experiment that it takes only 65.76 seconds for any substance to pass round the entire circulation, and that hence all medicinal agents may reach the nerve-centres within this period through the blood, does not follow as a necessary consequence; since the appropriation of the active principle of the medicine demands other conditions that are not complied with in the given cases, and there is a more rational and satisfactory explanation.

Neither does the experimental proof, afforded by division of all the nerves of a part, without impeding the circulation of the blood, avail anything; as the blood reaches the nerve-centres, and this eventually produces the effect of the medicine upon the nervous system. The case adduced of the continuity of a nerve, without the supply of blood, proves nothing; as the life of the nerve ceases with the obstruction of its necessary nourishment by the circulation, and therefore the contact of any medicinal agent with a dead nerve cannot give any result. Another fallacy consists in claiming for such cases as manifest influence through the nerves, that the proper action is on the centre, and that the nerve-centre produces the effect, and not the agent. This is simply absurd, and does not demand serious refutation.

I presume that all are of the opinion that the nerve-centres are essential to the propagation of any impression through the nervous system; yet it is none the less true that such impression is received through a nervous connection, and *that this impression depends upon the intimate relation of the minute nerve-fibrils to the capillary blood-vessels, upon which the primary impression is made by the absorption of the active agent.*

There is no doubt in regard to the general principle, that medicinal agents enter the general circulation, and produce their effects upon the different secretory organs by actual contact with their texture. Yet, granting this proposition in its widest acceptation, we have numerous instances that are not to be accounted for by such a long circuit in the development of the effect. If it can be demonstrated in any instance, that an influence operates upon the vital organs from peripheral impressions, without absorption into the general circulation, it is evident that such results from the contact of medicinal agents may be uniformly anticipated.

All the class of revulsive, including the sudden action of extreme heat and cold upon circumscribed portions of the cutaneous surface, are held to be exceptional cases; and their influence must be explained upon the reflex principle of the nervous system. Yet, if such impressions are extended without any shadow of claim that absorption has anything to do with the effect, then it is fair to infer that the first influence of an agent may be manifested directly upon the minute fibres of the nerves, and that the influence may be propagated thence to the nerve-centre, and extended through this to the entire organization. Note, for example, the effect of strong hartshorn when confined in contact with the skin, where no absorption can occur through the unbroken cuticle; and yet its energy is seen and felt like that of boiling water upon the surface. It is not merely a mechanical influence, nor yet chemical, but clearly vital, and must depend upon the rapid extension of the primary impression, through the nerves to the nerve-centre, which is returned with energy to the tissues of the surface, and with a special modifying power to the entire organization. By no other link of association can this result be explained, than through the reciprocal action and reaction of the different elements of the nervous system. While it is clear that the circulation of the blood in the capillaries is a prerequisite to any manifestation of nervous power, no causative influence can be attributed to its passage through the veins and arteries from and to the surface upon which the impression is made by the agent.

If then the contact of any substance with the superficial nerve fibres produces an impression that may be transmitted to the internal organs, and which by a reactionary power of the nerve-centres is extended throughout the system, we are prepared to appreciate the mode in which the subcutaneous impressions of medicines upon the capillaries affect the minute nerve-fibres primarily, and are extended consequently to the general system.

From an early period in medical history, isolated facts have been presented to illustrate the rapid influence of agents introduced beneath the skin; and more recently medicinal substances were inserted under the cuticle with a view to secure certain local or general effects, but without any correct appreciation of the principle upon which hypodermic applications have since been used so successfully.

While others had previously resorted to one or another form of medication through the skin, it was only in the year 1854 that Dr. Alexander Wood, of Edinburgh, initiated the method of subcutaneous injections for the relief of pain and the cure of diseases. The discovery of the vaso-motor system of nerves by Dr. Brown-Sequard, a

few years previously, gave a plausible clue to the efficacy of this method of treatment; yet for a considerable time it did not receive a large share of consideration from theorists, nor was it adopted very generally by practitioners until within the past fifteen years. At the outset, the use of the hypodermic syringe was limited to a certain class of cases in which pain was the predominant element; but latterly it has been employed for the introduction of a variety of medicated solutions; and the observation of its advantages has led to its use in an extended field of diseases. It has been ascertained that in the application of means for the relief of physical disorders, we may operate from without inward in many cases, with a prospect of securing better results than can be anticipated by directing our remedies from within outward. This is the case, especially, when our measures are addressed to the peripheral distribution of the nerves. The centripetal influence of the medication being first effected, there ensues promptly a centrifugal development of the effect, which extends to all parts of the body.

(*To be continued.*)

Hospital Reports.

A CLINICAL LECTURE DELIVERED AT THE UNIVERSITY OF PENNSYLVANIA.

BY D. HAYES AGNEW, M. D., LL. D.,

Professor of Surgery and Clinical Surgery in the University of Pennsylvania.

Reported by WILLIAM H. MORRISON, M. D.

Vesical Calculus—Crushing by Bigelow's Operation.

GENTLEMEN: The first case which I shall show you is one of stone in the bladder, and while the patient is being etherized, I shall make a few remarks in reference to this subject.

Stone in the bladder is distributed universally over the globe. I do not know that there is any locality in which it is not encountered, but there are some regions in which it is more common than in others. In the New England States, and in North and South Carolina, Illinois, Texas and Louisiana, it is rather an uncommon affection; but in Kentucky, Ohio, Tennessee, Alabama, and Missouri, it is frequently met with. When we cross into continental and other countries, the same difference is found. Stone in the bladder is more common in the southern part of France than it is in the northern part. In England, a large proportion of the cases of this disease is found in the counties of Norfolk and Suffolk; and in the northern counties of Ireland and Scotland stone is more common than in the southern parts of the same countries. Its unusual prevalence in some of these districts is attributed to the fact that the people drink a great deal of cider. Whether or not this exerts any influence, I think is questionable. In India, it is in the northern part that the greater number of cases occur. In China, the greater number of cases are found within a radius of forty or fifty miles around Canton. The prolific cause of vesical calculus is generally due to some defect in the organs of digestion and assimilation.

Stone may form in two different parts of the body, either in the kidney or in the bladder. Stones composed of uric acid or oxalate of lime, usually commence in the kidney. In consequence of the aggregation of a few crystals of one or other of these compounds, a concretion is formed in the infundibulum. This passes into the pelvis of the kidney, and thence into the ureter. Its size is perhaps disproportionate to the calibre of the ureter, so that it becomes arrested and is detained in its passage toward the bladder. This gives rise to an attack of renal colic. After a time, the pressure of the stream of water behind, and the gradual yielding of the muscular coat of the ureter, allow the stone to pass until it slips into the bladder, and the pain suddenly ceases. Fortunately, in many cases, the concretion is discharged after entering the bladder, and this is the end of all trouble. Sometimes other attacks may follow, but often there is but one attack, and the patient is permanently relieved. If, perchance, in consequence of its catching in some of the folds of the bladder, or if the bladder is somewhat sacculated, or has a deep *bas-fond* resulting from prostatic trouble, it does not immediately pass out, it gradually grows by deposit, until it forms a large mass which we call a vesical calculus.

When stone begins in the bladder it is usually of the phosphatic variety, and generally results from some disease of the lining membrane, or from prostatic obstruction. Under such circumstances products are formed which, acting on the urine, cause a deposition of its salts and the formation of deposits, which gradually grow until they become large enough to give rise to symptoms. Sometimes a stone is due to obstruction of the urethra. A stricture, especially in old persons, predisposes to the formation of stone, simply because the urine is not completely evacuated from the bladder, and the residual urine serves to produce a deposit, which may become the nucleus of a stone.

Stones which form in the kidney usually have a laminated character, and with a nucleus in the centre. It does not follow, because a stone begins as an uric acid or oxalate of lime calculus, that the whole stone will be made up of these compounds. Instead of this, there may be different strata, one layer being composed of uric acid, another of oxalate of lime, and another of phosphates. The character of the stone depends upon the chemical composition of the urine. Phosphatic stones are often only a conglomerate like dry mortar, rendered adherent by tenacious mucus.

In reference to the symptoms, the first thing noticed by this patient was the desire to pass water more frequently than had been his custom, compelling him to rise during the night two or three times. This frequency continued to increase until he was obliged to pass urine almost every hour. In addition to this, the dislodgment of the urine from the bladder was accompanied with pain which he locates at a certain point. It is not in

the bladder, but at the end of the urethra. The pain is not felt before or during the passage of the urine, but just at the termination of the act. This pain on urination is a very important point in diagnosis. It is suggestive of stone in the bladder, because we find under such circumstances (not always, but very generally), pain of this character. Pain is felt at the completion of the act of urination, because when the bladder is empty, the sensitive walls of the organ contract on the irregular surface of the stone, causing pain. It is felt at the end of the penis, because we always refer irritation of a nerve to the peripheral distribution of the nerve, and not to the point where the irritant acts. In addition to pains and frequent urination, the water contains mucus, pus and some blood, the stream being often suddenly interrupted by the concretion rolling into the neck of the bladder.

The treatment of these concretions may be divided into the medical and the surgical. The medical treatment is simply palliative. At one time the profession were largely engaged in experiments looking to the solution of stones. These have signally failed. There is, however, no doubt that in the case of stones composed of phosphates or urates, the irregular surfaces may be smoothed off and the calculi rendered less irritating by the use of alkalies, as bicarbonate of sodium. Some of the German waters have from this circumstance obtained considerable popularity in alleviating the sufferings from stone.

The only way to cure stone in the bladder, is to remove it. There are two ways of accomplishing this result. One is to introduce an instrument, grasp the stone, and crush it; the other is by the cutting operation, the incision being made either through the perineum, or above the pubes, called the high or supra-pubic operation. The crushing process is done with an instrument called a lithotrite, which was devised a long time ago, in a rude form, by Gruithuisen, a Bavarian surgeon, but which was much improved by Civiale, and particularly by Mr. Weiss, of London, and by Sir Henry Thompson. It consists of two blades, a male and a female blade. The instrument is passed into the bladder, the blades separated, and the stone caught. Then, by means of a screw, the stone is crushed. The smaller fragments are next picked up and crushed, until the stone is reduced into particles so small as to readily pass through the urethra. The old plan was to break the stone and allow the patient to pass the fragments through the urethra. Under these circumstances a fragment would often become entangled in the bladder or urethra, giving rise to a great deal of pain, and frequently leading to the formation of another stone.

The operation which has of late very largely filled the mind of the profession, is that which is known as the Bigelow operation, or litholopaxy. This consists in crushing the stone at one sitting, into fragments so small that they may be removed with an evacuator. The evacuator is not a novelty, for it is by no means a new instrument. The novelty consists in the prolonged operation, the crushing being continued until the stone is broken into sufficiently small fragments, even if this should require an hour or longer, and in the improved character of the evacuator. The operation is still on trial. So far, it is viewed with favor by the profession. I have performed it a number of times, and am pleased with the results, but I am not yet prepared to say how it willcompare with other operations, at least until a sufficient number of cases have been recorded to make a comparison valuable.

What I propose to do to-day is to introduce this lithotrite, catch the stone, and if it is soft enough and not too large, crush it and remove the fragments with this evacuator, which consists of a gum bag which is filled with tepid water. At the bottom is a glass receiver into which the sediment drops. The bag has also a nozzle which connects with a large catheter, after the latter has been introduced into the bladder. The bulb being compressed, the water is forced into the bladder, and when the pressure is removed it returns, bringing with it the fragments of stone, which fall into the receiver. This washing-out process is continued until all the debris has been removed.

The conditions which warrant the introduction of a lithotrite for crushing stone and the removal of the fragments with the evacuator, are a sound urethra, and a stone not too large nor too hard.

Some preparation is usually necessary before an operation of this kind is resorted to. The urine should, of course, be examined to determine the presence or absence of kidney disease, which must exert a determining influence on the operative procedures proper to be adopted. The patient should be kept quiet for a few days before the operation, and the bowels should be opened early in the morning of the day of operation.

This operation is not suited to cases of stone in children, and a large proportion of the cases of vesical calculus occur before the age of twenty years. In children, the cutting operation is the proper one.

Before commencing the operation, I pass a sound into the bladder to see if I detect the stone. This is very important, and should always be done. It is deemed of such vital importance that, although the surgeon may have felt the stone a dozen times before, but does not feel it at the time of operation, he does not cut. You may think that this is unnecessary caution or precaution, but that it is a wise rule, there is no doubt; for on several occasions the bladder has been opened with the expectation of finding a stone, and no calculus has existed, although at previous examinations the operator thought that he had detected it. Placing this deal-board on the end of the sound, I think that the clink of the instrument against the calculus can be heard over the entire room. There is, therefore, no question in this case as to the presence of a calculus.

We bring the patient across the bed and throw into the bladder about four ounces of flaxseed tea. We must then wait and see if the bladder will retain it. The patient is not yet thoroughly under the influence of the ether, and it seems to me that the bladder is about the last part to yield to an anæsthetic. The object of throwing fluid into the bladder is to so distend the walls of the viscus, that in manipulating the instrument it will not come in contact with the mucous membrane, and thus prevent the wall of the bladder being caught between the blades of the instrument. If too

much fluid is thrown in, it will provoke resistance and be expelled. The patient is not yet fully relaxed, and the stiffness of the knees reminds me of a little incident which occurred in a case which I was cutting for stone, in Delaware about a year ago. The patient was placed on the table preparatory to operating, and notwithstanding the profound anæsthesia, the knees could not be bent. On examining the joints, I found false anchylosis on both sides. The adhesions were broken up, and I then proceeded with the operation. In cases in which relaxation does not occur, it would be well to examine and see if a trouble of this nature existed.

I now introduce the lithrotrite, and at once catch the stone. As soon as I secure the concretion, I draw the instrument away and raise it up a little so as to place it clear of the mucous membrane. Having crushed the stone, I pick up the different fragments. After once catching the stone, it is, as a rule, not difficult to catch the fragments, because they all fall to one place. I continue this until the calculus is pretty well reduced.

I next remove the litrotrite and insert a large catheter, and attach the rubber bag. A portion of the liquid is then slowly forced into the bladder, and as it returns it brings with it some of the debris resulting from the crushing of the stone. This you can see falling into the glass receptacle. It is necessary to let a few minutes intervene between the injections, so as to allow any fragments which may be floating in the liquid to settle into the receiver; for if they were forced back into the bladder, their sharp edges coming in contact with the mucous membrane might cause injury.

A large quantity of debris has now been removed. I shall withdraw the catheter and pass a sound, to see if I can detect any fragments. I can feel none.

The after-treatment will consist in the administration of a suppository of opium, the application of a large poultice over the epigastric region, and perfect quiet. He will be placed on a liquid diet, consisting largely of milk. He will be allowed to drink flaxseed tea, or what answers very well, water containing a small amount of bicarbonate of sodium. Before he leaves the hospital, a sound will again be passed to see if any fragments have been left behind.

CLINICAL NOTES.

BY W. F. COOMES, M. D.

Professor of Physiology and Diseases of the Eye, Ear, Throat, and Nose, in the Kentucky School of Medicine at Louisville, Ky.

Case 1. Master F., aged nine years, was brought to me in the latter part of December, 1883, by his father, who informed me that the little fellow had a pin in his throat, and at the same time said: "Doctor, you will have little trouble in removing it, for the head of the pin is pushing out against the skin."

I paid but little attention to what the man said about the matter, as I thought that he was mistaken about the locality of the pin, and proceeded to examine the larynx with the laryngoscope. This I found very difficult, as the throat had been manipulated by another physician and by the child's mother, and in consequence of that fact was extremely sensitive and bleeding; but nevertheless I succeeded in getting a moderately fair look at the larynx and its surrounding structures, and could not see the pin.

I then examined the outer surface of the neck at the point indicated by the father, which was near the median line, and a little to the left, and just below the inferior margin of the thyroid and cricoid cartilages.

It was impossible to determine whether the protruding portion was the head or point of the pin, as it was covered by the skin and deep fascia.

The pin moved up and down with each act of deglutition, but did not change its relations with the larynx, showing that it was very firmly fixed.

Being unable to determine whether or not the head or the point of the pin was projecting, it was impossible to say just what means would have to be resorted to in order to remove it.

Under these circumstances, I prepared to do tracheotomy, or whatever might be necessary to remove the pin. I determined, however, not to give an anæsthetic until I found that it was absolutely necessary. My little patient, who was quite a soldier, promised me to hold still while I made an incision through the skin and fascia. This he did, and, to my gratification, when I cut through those structures, the head of the pin presented itself. It was firm and fast, and required quite a stout pull with a strong needle-holder to remove it. Indeed, it was necessary to press the larynx backwards and keep it in position with my left hand, while I did the pulling with the right. The pin was so firmly grasped by the tissues that it was considerably bent in pulling it out. Its removal caused but slight pain, and the little wound was closed with a piece of adhesive plaster. There was not a bad symptom following the operation, and the boy attended school as usual after the fourth or fifth day had passed.

The puzzling question is: How did the pin make its way through the tissues as above stated?

Poisoning from Local Application of Iodoform to an Ulcerated Larynx.

Case 2. Dr. S., aged 24, subject of laryngeal phthisis, consulted me in August, 1883. At that time there was considerable ulceration of the epiglottis, with more or less congestion of all the structures surrounding the larynx. There was much pain accompanying the act of deglutition, and in order to alleviate this, iodoform was blown into the larynx once in twenty-four hours. During the time that I made the applications, about two grains was used at each sitting. When the doctor ceased to visit my office, he made the application himself, and used about one grain; applying that with a small insufflator. There were no ill-effects from the drug until after it had been used about thirty days. One evening, about 8 o'clock, the application was made as usual, and in about an hour and a half the pulse became irregular, frequently losing a beat or two. At times the heart's action became much accelerated, and made the patient very uncomfortable. It again become slow and intermittent. Along with this irregular action of the heart, there was a sense of extreme fulness about the stomach, as if

that viscus was distended with gas. There was also a fainty feeling, with a sense of oppression about the heart and lungs.

These unpleasant symptoms lasted about two hours, leaving the patient with an irregular heart, and somewhat exhausted. The application was repeated time and again, with the same result in each instance, thus leaving no doubt about the unpleasant symptoms being due to the action of iodoform.

I must confess that I was surprised when the doctor told me of his experience with the drug; and I would have been loth to believe it, had it not come from one whom I know to be fully competent to judge of its effects. Previous to this occurrence, I was of the opinion that it would be impossible to poison a person by applying so small a quantity of iodoform locally; as we have been told by those who use it extensively, that large wounds could be filled with it, and that there was but little danger of poisoning.

Of course, it is known that poisoning from this drug is liable to occur, when it is applied to open wounds; but it is understood that bad results from such practice are of rare occurrence, and the majority of surgeons apply it without hesitation.

It must be understood that in this instance the open surface was being constantly increased; and this may account for the fact that the patient was not poisoned from the first applications. I am positive that the amount applied by the doctor himself did not exceed one grain, for I had him to measure out what he supposed to be equivalent to the amount applied at each sitting, and found it to be just barely one grain. I report this case simply because the poisoning resulted from so small a quantity of the drug; and in order that others might profit by the experience.

Case 3. J. D. F. R., aged fifty-six years, was brought to me by Dr. Morris, of Elizabethtown, Ky., about August 20, 1880.

The patient was much emaciated, and his general health anything but good. He slept badly, and had an anxious expression about his face. He had a severe cough, which was worse at night and in the morning, and altogether the patient looked very much like an individual suffering with pulmonary phthisis. His vocal cords were examined, but presented nothing more than slight congestion. His lungs were examined by Dr. F. C. Wilson, who was unable to detect anything wrong with them. He was sent home with instructions to have a good diet, with tonics.

I heard no more from the patient for several months, when I received a letter from Dr. Morris, containing a small hickory splinter, a little less than one line in width, and about one inch and a quarter in length. This was expectorated by the patient while in a fit of coughing. This was the cause of the three years' distress; and when it was expectorated, the patient remembered the time of its introduction to have been on a certain evening while he was engaged at work in an axe-handle factory.

He thought the severe cough which occurred at the time that the splinter was introduced, was caused by a great effort that he was making to lift a heavy piece of timber, not dreaming that the piece of wood had passed into his trachea. At the time of the accident, the patient came near suffocating from the effects of prolonged cough, which lasted for hours, and to use his own expression "the cough was killing."

It is needless to say that the removal of the splinter brought relief, and Mr. R.'s cough ceased, and he has since enjoyed good health.

Medical Societies.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

The Bacillus Tuberculosis and the Etiology of Tuberculosis. Is Consumption Contagious?

Second Communication.

[Read November 14, 1883.]

BY H. F. FORMAD, B. M., M. D.,

Lecturer on Experimental Pathology and Demonstrator of Morbid Anatomy in the University of Pennsylvania; Mütter Lecturer in the College of Physicians of Philadelphia.

General Consideration.

A little over a year ago* I had the honor of presenting for your consideration some anatomical points in refutation of the etiological relations of the bacillus tuberculosis.

At that time I announced some original observations regarding the histology of scrofulous tissue, tending to place the question of heredity in tuberculous disease upon an anatomical basis. These peculiarities of scrofulous tissues, I submitted as elucidating the etiology of tuberculosis, showing that the peculiar etiological condition of the individual, under the influence of simple irritants, and not the character of the irritant, is responsible for tubercular inflammation. It gives me pleasure to state that these observations have since been confirmed by several competent histologists, whose articles on this subject will soon appear in print; besides which, a general interest has been manifested by favorable comments both in America and abroad.

Shortly before the publication of these observations, Koch, of Berlin, had brought forward the discovery of the now famous bacillus tuberculosis, affirming it to be the sole cause of pulmonary phthisis, and other forms of tubercular disease, and claiming for it, besides exclusive pathogenetic properties, special morphological and chemical characteristics.

In my first paper, I denied some of these propositions upon grounds of personal investigation, and, subsequently, Koch's researches were also severely criticised by a number of other observers.

As interesting and valuable as the discovery of Koch is, from a biological standpoint, its practical value is, in my opinion, decidedly over-estimated, and has not nearly the significance for medical science which the enthusiastic followers of Koch ascribe to it. The influence of the discovery was, however, great in strengthening the traditional and unwarranted belief in the contagiousness of phthisis, as held by a small part of the profession

*Studies from the Pathological Laboratory of the University of Pennsylvania, xi.: "The Bacillus Tuberculosis and some Anatomical Points which suggest the Refutation of its Etiological Relation with Tuberculosis, by H. F. Formad." Read before this Society, October 18, 1882.

and community. On the other hand, this belief led to the popularity of the discovery. In this respect, the bacillus theory has perhaps been harmful, and, taking the consequences into consideration, we should not accept such a theory without the closest scrutiny.

Two practical benefits may accrue from this discovery. The first is that the fear of the effects of the bacillus may induce greater cleanliness in hospital management, and enforce improvement in hygienic matters in general. It is doubtful whether the removal and prompt destruction of the sputum would have any influence in checking the spread of phthisis, as the disease is found as often, if not oftener, in the clean palaces of the wealthy as in the unclean huts of the poor. The second benefit resulting from the bacillus theory may be that physicians may become induced to make more use of the microscope in diagnosis; yet, in this respect, the general use of the microscope is hardly practicable on account of the thorough technic and experience required.

To-day, while the bacillus is acknowledged as a common morphological concomitant of tubercle, the pathogenetic properties are denied it by the best pathologists and clinicians, on account of a want of sufficient confirmation of the evidence thus far offered.

The followers of Koch's theory are, however, numerous, but they are recruited largely from the ranks of clinical teachers, book-writers, and others possessing no opportunities for personal investigation.

It may be well to state that, upon my visit to Koch last summer, made with the purpose of doing justice to this important question, I was gratified in many respects. I found Koch an earnest and conscientious worker, and not as dogmatic and extreme in his views as would appear from his writings; nor is he as self-satisfied and as rash to jump at conclusions as are some of his followers. Koch has the co-operation of an excellent staff of assistants, all able mycologists; but it was a matter of surprise to me that there was not a single competent pathologist connected with Koch's laboratory; and such services are evidently much needed to give to the observations made there the proper interpretation from a biological and anatomical standpoint. I was also pleased to learn in Berlin that the discovery of the bacillus was exaggerated, not so much by Koch himself as by the Imperial Board of Health, which employs him, and by his over-zealous followers in the profession. There is strong evidence, however, that Koch's investigations are biased by the determination to find for each specific disease a specific fungus.

Following out the various phases in the study of tuberculosis, I am sorry to see that the entire subject is now being considered from a purely etiological basis with reference to bacteria, while the study of the anatomical and biological relations is wholly neglected.

I admire the beautiful bacteridian discoveries of Klebs, and particularly those of Koch, in connection with the etiology of tuberculosis. The accomplishment of these results is a triumph for mycology and scientific botany; but these studies are much too one-sided to have an application to scientific medicine. The bacillus is there! It is concomitant with most tubercular lesions. It is diagnostic of tuberculous change. It is, on account of its irritant properties, one of the causes of tuberculosis; but this forms no reason for asserting that tuberculosis should be considered a contagious disease, without further investigation and proof. A contagious disease can have only one cause. I cannot agree with those who define the predisposition to phthisis as being a condition of the organism which offers a favorable soil for the tubercle bacillus. Nor can I believe that inheritance is explained by subsequent infection from cohabitation; *e. g.*, that children become scrofulous by living with consumptive parents.

The latest fruits of the bacillus studies have even inspired Baumgarten (Centralblatt f. d. Med. Wis., Aug. 4, 1883,) and several others to come to the conclusion, in reference to the hereditary nature of tuberculosis, that the bacillus is transmitted in its larval state from mother to fœtus in intra-uterine life! One would think, however, that one of the most wonderful effects of the tubercle bacillus is manifested by the change it produced in the direction of reasoning of some of our pathological and clinical investigators, both at home and abroad.

Some of the younger pathologists are even affected by a regular fanaticism for bacterian studies in tuberculosis. These studies now take the place of their former excellent pathologico-anatomical studies. Consideration is no longer given to the tissue changes, or the nidus which invites the bacteria and nourishes them. In fact, Koch's followers in their enthusiasm exaggerate matters, and, to Koch's own amusement, go further in their bacillus speculations than he himself thinks justifiable. It is really painful to read how some of the younger German pathologists, and a few of the prominent English surgeons, under the influence of the bacillus craze, will make, in their publications, assertions entirely unwarrantable. They describe, for instance, with the greatest ingenuity and exquisite minuteness, how "one or more bacilli" will produce certain histological changes in the lungs or in the peritoneum, designating the exact route to the same; how the different cells, the lymphatic and the blood-vessels, are affected; how the bacilli convert one variety of cells into another; how they manufacture giant cells and cheesy material; how acute and chronic phthisis is produced by the bacilli, and the quantity necessary for each; how tubercles develop only and exactly in those places where the bacillus becomes lodged; how, if bacilli alone are inhaled, miliary tubercles form; and how, if the bacillus is accompanied by some other irritants, a broncho-pneumonia will ensue.

All the above statements are made by scientific medical men and pathologists, and offered as broad facts, in full earnest! I only have to say that here evidently observation is substituted by imagination and speculation; and all this is done for the sake of the convenience in explaining a disease by pretty hypotheses.

The only men who attempted to repeat Koch's experiments, besides the work done in the pathological laboratory of the University of Pennsylvania, were Spina (Studien über Tuberculose Wien, 1883,) and Watson Cheyne. Of the latter

two scientists, Spina came to results entirely different from those of Koch, and they disprove beyond doubt some parts of Koch's hypothesis. From an analytical and critical point of view, Spina's studies of tuberculosis are excellent, but the technical part of his investigation is deficient, and hence not satisfactory. Watson Cheyne, to whom the "British Association for Advancement of Science by Research" had entrusted the investigation of tuberculosis, and the testing of Koch's researches, did not do justice to his mission. From Cheyne's report (*The Practitioner*, April, 1883), it is seen that he made no earnest attempt to study the nature of tuberculosis, because all he did was to study and experiment with bacteria met with in tuberculous lesions. He went to see some of the different mycologists, consulting only believers in the germ theory; obtained some French and German bacteridian material, and, after testing the same, he reports with great emphasis that Koch's bacilli are a more genuine tubercular virus than Klebs' or Toussaint's micrococci. He did not inquire, nor did he care, whether tuberculosis may have any other cause! He simply imitated some of Koch's experiments with the bacillus material in rabbits and guinea-pigs (only), and obtained, of course, the same results. Furthermore, he made some control experiments, which, as I will show, pass for naught, as they are much more deficient than those of Koch.

There are a number of excellent studies in reference to the occurrence of bacilli in the sputum and in tuberculous tissues; but the main part of Koch's hypothesis, *i. e.*, the etiological relation of these bacilli to the tubercular disease, remains still unconfirmed.

My own researches on tuberculosis were made from a standpoint different from that of Koch, and they were undertaken five years ago, being carried on continuously since that time by myself and assistants. My object was to investigate the natural history of the disease, without being influenced by any preconceived views. While due attention was paid to external agencies in the production of tuberculosis, the part played by the animal or human organism itself, the behavior of its component cells, and the primary changes in the tissues, were not lost sight of.

I may state that I was fortunate enough to be able to utilize the material of over four hundred cases of tubercular disease from the autopsy table, including a number of cases studied in the pathological institutes in Europe at various times.

My present research on tuberculosis with special reference to the bacillus question, was carried on during the last year and a half, under the auspices of the Provost of the University of Pennsylvania, Dr. Wm. Pepper. This communication should not be considered a report on my investigations, as these are not yet concluded; but a detailed report of these investigations will be made next summer. Some of the positive results achieved will, however, be referred to in the present paper; otherwise it merely embodies a general critical survey of the question of the etiology of tuberculosis, based upon a careful perusal of the literature of the subject and upon personal observation.

I may state at the outset, that, while the results of my observations force me to-day to make some concessions to Koch, namely, that his bacillus, on account of its irritative properties, can produce tuberculosis under certain conditions, I am firmer than ever in my former conclusions from the results of repeated observations, that tuberculosis may arise from other causes. The bacillus may be one of the causes, conditionally, but it is not *the* cause. The question of predisposition stands in the way of the acceptance of the bacillus theory. Furthermore, I will try to show that tuberculosis is not a contagious disease, and it is particularly in reference to this that I am glad to bring the present subject before the Society, desiring to profit by the discussion which is to follow as a result of the experience and the clinical observation of the individual members of the Society.

The question of the contagiousness of phthisis is one of supreme importance, not only from its scientific, but also from its social aspects.

For convenience in treating the subject of the etiology of tuberculosis, I shall speak of it under the following headings:

1. The definition, the anatomical character, and the etiology of tubercular lesions, including pulmonary phthisis.
2. The predisposition; the predisposing conditions; scrofulosis.
3. Tuberculosis without predisposition due to inflammation of serous membranes.
4. Question of contagiousness; clinical aspect.
5. The bacillus tuberculosis.
6. Experiments—"pro" and "contra;" traumatic tuberculosis.

Conclusions.

All these considerations will have to be, of necessity, very brief.

1. The Definition, the Anatomical Character, and the Etiology of Tubercular Lesions, Including Pulmonary Phthisis.

No definite understanding concerning a disease can be arrived at unless some fixed conception of the anatomical characters and various expressions of the lesions of that disease is formed. Thus, as regards the question of tuberculosis and pulmonary phthisis, the matter would be much simpler if a general understanding could be arrived at as to the definition of tuberculosis and phthisis in its different anatomical manifestations. The pivot of the question is, what to call a tubercle, or a tubercular lesion.

The traditional conception of a tubercle being a miliary node, the belief is that nothing is tuberculosis unless expressed by nodes, and that everything is tuberculosis that appears to the eye as containing nodes. These misconceptions are what bring the confusion and prevent the settlement of the question of tuberculosis, both at the post-mortem table and in the hands of the experimenter.

One of the results of this confusion is that some clinicians divide pulmonary phthisis into catarrhal, cheesy, fibroid, and tubercular proper, because they do not see tubercle nodules in some of these forms of phthisis. They seem not to be aware of the fact that miliary tubercles do not belong necessarily to the picture of pulmonary phthisis; and, on the other hand, that those nodes which occasionally appear as miliary tubercles are not miliary tubercles at all, but are only

miliary foci of broncho-pneumonia, due to aspiration, as will be explained later. Miliary tubercles, if at all present, usually form a part of a general disease, a tuberculosis of the whole body. In rare instances, when the miliary eruption takes its departure from the lung, the miliary nodules may be limited to the lung.

A more serious matter is the mistake that experimenters make of interpreting as tubercles the so-called inhalation tuberculosis, artificially produced in animals by means of a spray with tuberculous and other matter. The nodules produced in the lung under these circumstances are not miliary tubercles—in fact, no tubercles at all. They are simply miliary broncho-pneumonic foci, limited to those terminal collections of air-vesicles, called acini, in which some of the inhaled irritative material became lodged. The natural round boundaries of these acini correspond exactly to the usual size of miliary tubercles, and appear as such even under the microscope, although filled merely with an unorganized inflammatory exudate. The uniform distribution of these foci is due to the fact that the inhaled irritating particles are distributed only to individual and the most accessible bronchioles and acini, thus simulating a true miliary tuberculosis of the lung. Similar broncho-pneumonic foci occur in the human lung from self-aspiration of tuberculous material from a primary focus to some other portion of the lung or throughout the whole lung. This was proven long ago, but the inhalation experimenters appear not to be aware of that fact. Careful personal observations and experiments, to be recorded in my forthcoming report, have convinced me that such inhalation experiments prove nothing, either for or against the contagiousness of tuberculosis, in connection with which they have been brought forward as the strongest affirmative proofs. Furthermore, it must also be remembered that the so-called experimental inhalation tubercles, as a rule, remain local.

On the other hand, miliary nodes or tubercles are met with, not only in tubercular lesions, but also in a variety of similar and dissimilar lesions, such as pearl disease or bovine tuberculosis, lupus, leprosy, glanders, actinomycosis, chancre, and gummata, cancer, typhoid infiltration, lymphomatous and leukæmic lesions. All these lesions, even cancer ("miliary carcinosis"), are able to give rise to exquisite miliary disseminations, or eruptions, although these are most frequently observed in tuberculosis. We already recognize leprous, lupous, glanderous, syphilitic, and other tubercles, in contradistinction to tuberculous or scrofulous tubercles.

To the above nodular formations may be added a variety of minute inflammatory foci of granulation tissue organized around minute foreign bodies introduced experimentally into various tissues; also, "false tubercles," such as mere unorganized collections of lymphoid cells, held together by some fibrine or by some artificial or natural round boundaries, such as is the case with the referred-to "inhalation tubercles;" and further, also, the eruption and follicular enlargements in the skin and mucous membranes.

The question now arises, how to distinguish between these various kinds of nodules, apart from their clinical features. They may all undergo a cheesy or a fibrous change, may calcify, and may contain giant cells. In all, bacilli may be found if a cheesy change occurs, or tends to occur, save in cancer and in leukæmic formation. Without desiring to appear skeptical, I must say, however, that it takes the skill of a Koch to differentiate, sometimes, the bacilli met with in the various kinds of nodes, even after applying all microchemical tests.

The true tuberculous tubercles occasionally do not show any bacilli whatever, as I will prove from personal observation, and from the reliable testimony of others. It will also be shown that the only test now left for determining the pathogenic peculiarity of tubercle—namely, the asserted exclusive property to produce tuberculosis—is conditional and uncertain, since substances, not tuberculous, may, under similar condition, have the same effect.

Therefore, it is impossible to define tuberculosis, either by its anatomical peculiarity or by the pathogenic property of its nodes.

Another important point in the natural history of tuberculosis is the cheesy degeneration of its products; but here, again, we are surrounded by difficulty if we take only the cheesy product into consideration, because all the lesions mentioned before as being characterized by, and as being capable of, nodular eruptions, have the tendency to undergo cheesy change. Besides this, simple inflammatory products have been observed to undergo a similar change, as is instanced by that form of cheesy hepatization, sometimes following croupous pneumonia, and also by certain forms of rapid necrotic changes, such as occur in acute septic inflammations, designated lately by the name of coagulation necrosis. It must, however, be remembered that the total absence of cheesy masses in the body of tuberculous subjects has been observed.

To tell tuberculosis from allied lesions is only possible after a consideration of the soil in which it develops, and the location of the products, together with the clinical and anatomical manifestations.

What is the origin of tubercle nodules?

The primary occurrence of miliary tubercle nodes is, to my mind, very questionable. I have never seen it occur without the co-existence of diffuse granulation tubercle. This granulation tubercle is recognized by all as being a simple inflammatory granulation tissue, characterized by cells somewhat larger than ordinary lymphoid cells, containing usually giant cells, but undergoing very readily cheesy change on account of its deficiency in blood-vessels. This tissue is regarded by most pathologists as secondary to miliary tubercles; but I think, after careful observation, that the reverse is the case; because I have never seen upon the post-mortem table, or in animals, *primary* miliary nodes without the granulation tissue, while the granulation tubercle tissue does not exist very frequently without the nodes. Moreover, primary *miliary* tuberculosis is unknown.

That tubercle is primarily a simple granulation tissue of inflammatory origin has been proven experimentally. E. Ziegler (Centralbl. f. d. Med. Wis., 1874, No. li.,) made the following interesting experiment: He inserted below the skin or into the peritoneum of animals, a number of pairs

of glass covers, each pair glued together in such a manner that between them there existed an interspace just large enough to allow the entrance of white blood corpuscles; and these corpuscles, not being severed from the body of the animal, then formed a tissue between these plates of glass, which, upon removal after various periods, could be readily examined under the microscope, and the conditions of tissue formations traced. Under these circumstances it was observed that whenever blood-vessels had developed in the new-formed tissue between the glass plates, an organization of the cells into a perfect connective tissue took place; but when the formation of blood-vessels had failed to occur, then a tissue simulating tubercle tissue was formed, made up of epithelioid and giant cells, and cheesy changes had occurred. Ziegler very properly declared the latter product to be tubercle tissue. I have had, and have at present, ample opportunity to corroborate the accuracy of these observations. Ziegler's experiments were repeated in the pathological laboratory of the Univesity of Pennsylvania, by Hammer, and at present are being carried on by Woodnut. By these experiments, made with slight modification, after the method of Ziegler, under varying conditions and upon various animals, it was shown that the granulation tissue gradually gave origin to tubercle nodules. Furthermore, these experiments showed that the tubercle nodes and cheesy changes ensue without the action of bacilli, as the latter were found not to be present when proper care was taken, during the execution of the experiment, to exclude them.

(*To be continued.*)

EDITORIAL DEPARTMENT.

PERISCOPE.

The Influence of Malarious Disorders on Urethral Fever, with Remarks on the Treatment of Stricture.

In the *Brit. Med. Jour.*, February 23, 1884, Dr. John Ward Cousins thus writes:

During the recent debate on urethral fever in the Medical Society of London, the President (Sir Joseph Fayrer), referred to the association which frequently exists between urethral fever and the paroxysmal fevers of malarious climates. He remarked "that the disease is uniformly more severe, and more probable to recur, in malarious climates than in our comparatively temperate one;" and that "persons who have been under the influence of malaria, and have lived in malarious climates, are more liable to suffer from this condition than others." Now, the great practical value of these observations must be very evident to every surgeon who is called upon to treat patients laboring under disorders of the urinary organs, after a residence in a malarial and tropical climate. Many instances have occurred in my surgical practice, proving this association between urinary and malarious disorders, and the necessity of special care in the management of stricture of the urethra under these circumstances. After complete freedom from the disease for a long period of time, the mere passage of an instrument into the bladder is, sometimes, followed by an attack of paroxysmal fever, marked by rigors, elevation of temperature, sweating, and high-colored urine. For example, not long ago, a gentleman consulted me for stricture who had suffered from several attacks of fever some years before, during a residence in the northern districts of India. After many days' rest and preparation, I examined the stricture, and easily passed a soft instrument into the bladder. Within a few hours he had a well-marked fit of ague, and on my visit the following day, he said to me: "You have brought out a sharp attack of my old fever." The paroxysms occurred regularly for some days, and then subsided, with the aid of quinine, rest, and warm baths. As soon as he was convalescent I sent him away, and in a month or two he returned to me much improved in health. With great caution I commenced again the surgical treatment, and soon cured the stricture without any re-appearance of the old disorder.

The remarkable tendency of malarious fevers to impress a character of periodicity upon subsequent ailments has often been a matter of observation. Their characteristic features manifest a disposition to recurrence after a long series of years, under any shock or depression of the system. Sometimes, prolonged exposure to malarious influence issues in a morbid alteration of a great many organs and tissues; but, even when no trace of structural disease is discoverable, a deep impression is often stamped upon the nervous system. A special liability, however, to the recurrence of paroxysmal fever is observed in connection with disorders of the urinary organs. This is dependent upon the normal sensibility of these organs, and their intimate relation to the spinal and vaso-motor centres. The readiness with which direct stimulation upon them may induce constitutional disturbance, and their proneness to reflex irritation, are indications of their widely spread nervous associations. Now, to this susceptibility must be added the persistent effect of the malarious poison upon the nervous system. Its specific action has long passed away; still there remains behind a nervous instability, which permits a reflection of any impulse through the old tracts, and a reproduction of a disturbance—an exact counterpart of the former fever, attended with all its characteristic phenomena.

In many other nervous and neuralgic diseases, a persistent instability of some central or peri-

pheral part of the nervous apparatus is often a well-marked feature, and many striking examples can be readily recalled, showing that obscure sensibility lingers long in channels once acutely disturbed, and that any sudden depression of the system is often sufficient to arouse long-forgotten pains and morbid sensibilities.

One word in reference to the surgical treatment of malarious patients suffering from stricture of the urethra. It is always necessary in these cases to proceed with the greatest gentleness and caution. The risk of urethral fever is far greater than under ordinary circumstances, and this must be combated at the onset by suitable measures for improving the health and vigor of the system. Great benefit results from tonic treatment and quinine, combined with rest, careful diet, and warm baths.

As regards the surgical management, heroic measures, in my opinion, must be excluded, as both unsuitable and unsafe. Rapid dilatation and splitting are generally out of the question, and will surely be followed by disturbance, stamped with malarious periodicity. Even gradual dilatation cannot be undertaken too cautiously. The operation should always be performed in a warm room, and with the patient well protected with warm clothing. It is my practice to fill the urethra with warm oil, and always to use soft tapering dilators, introduced over a catgut or whalebone guide. The instruments should be very gently manipulated, without causing pain or any mechanical injury. We must always be satisfied with very slow progress, and, during the early stages of the treatment, it is often desirable to allow an interval of several days. With these simple precautions, I have generally found that the urethra soon becomes tolerant of mechanical interference.

Amenorrhœa and Vicarious Menstruation.

Apropos of this subject, it is of value to note the following from the *London Medical Times*, because it bears the authority of no less a name than Dr. Samuel Wilks:

I have been much impressed with the practical importance of the lecture published in this journal by Dr. Matthews Duncan, on "Amenorrhœa and Vicarious Menstruation;" for although the views therein contained are no doubt in accordance with the opinions of many experienced men, I cannot but think that a large number in the profession require to be roused up to their truth. As regards vicarious menstruation, I have never published my opinions on the subject, but as a teacher of students, I have always denounced the absurdity, as well as the error in fact, of a belief in this imaginary disorder. I have had considerable experience of diseases, both in public and private practice, and I am still waiting to see an instance of this curious condition before I can throw off my incredulity. It seems to me that some of the greatest advances in medicine have been not so much by adding new facts to our knowledge, as by getting rid of old wives' fables, which, originating in the dark ages, have finally undergone a kind of glorification in the medical mind.

If there be no such thing as vicarious menstruation, the subject had better be eradicated from our medical books, and be no longer instilled into the minds of the young, as is now, unfortunately, the case, as I know from long experience as an examiner. Such questions as the causes of hæmoptysis and hæmatemesis are amongst the commonest put to candidates for diplomas, and one never fails to hear much about vicarious menstruation. I have seen my late colleague, Dr. Peacock, at the College of Surgeons—a man of the mildest temper—get really angry when student after student would give vicarious menstruation as the first cause for hæmatemesis, looking over such frequent conditions as ulcers or cirrhosis. The reason was clear: their memory was impressed by the very strangeness and oddity of the disorder, and so it came first to the front.

But lately having had to correspond about a case of hæmatemesis, in which vicarious menstruation was suggested as a cause, I was referrred, in consequence of my skepticism, to Watson's lectures, a gospel which could not be gainsayed. I gladly refreshed my memory, but was certainly surprised to find that the author regards this condition as a very common occurrence. It is remarkable, however, that he relates no case of his own, but is content to give particulars of two cases, which date back nearly a century from the present time. Sir T. Watson says, "Women are liable to perverted menstruation (so to call it) through other channels than the natural one. Hemorrhage from the stomach occurring vicariously of menstruation is abundantly common. I told you, in a former lecture, that patients will sometimes menstruate, for years together, through the lungs; more commonly do they menstruate through the stomach." It is very significant that Sir Thomas mentions no case coming within his own knowledge, but is content to relate a case which was told him by Dr. Latham, and ends the story by saying: "This was the woman's own account, and there appeared no reason to question its accuracy." His other case is quoted from Pinel, and is that of a woman who spent her life in the *Satpêtrière:* "This woman continued to *menstruate through her lungs*, at each monthly period, from her 16th to her 58th year, *i. e.* during 42 years." It may be observed how the change of locality of the function lengthened its activity to a very advanced period of life.

I feel great reluctance in thus criticising so esteemed a writer as the late Sir T. Watson, but the greater the weight of his authority; the more need there is of thoroughly sifting the truth of doctrines of so extraordinary a nature as I have quoted.

As regards the other subject of Dr. Duncan's lecture, amenorrhœa, I will only say a few words, since it is treated as a substantive complaint by many gynæcologists. For my own part, I know nothing of such a disorder, nor of such remedies as emmenagogues. I believe myself that amenorrhœa, like many other complaints, is the remnant of a popular delusion; and if so, it should be eradicated, like the other disorder, from the medical mind. I have a letter in my desk, written by a qualified medical man, in reference to a young lady, the subject of phthisis, in which he says that if I could give an emmenagogue to bring on the menstrual function, he had no doubt the pa-

tient would get better of the chest disease. I wrote back to say that I heartily agreed with him. This is only an extreme example of what one hears daily in cases of chlorosis and other disorders of girls. Feeling, therefore, so much in accord with the sensible opinions propounded by Dr. Matthews Duncan, I trust they will find their due weight on the minds of the younger members of the profession.

The Diagnosis of Mitral Constriction.

The *Med. Times and Gaz.*, January 5, 1884, says:

Simple mitral constriction is of far more frequent occurrence than is generally allowed, and its diagnosis probably presents greater difficulties than any other serious lesion of the valves on the left side of the heart. We exclude from consideration cases which are complicated by regurgitation, because the latter, when advanced enough to produce grave symptoms, is easily detected; and the presence of constriction as well in such cases is not of great practical importance. But when, as not rarely occurs, the question is whether stenosis of the mitral orifice be present, and the cause of serious symptoms, or whether the heart be healthy, and the distress and danger due to other conditions, accurate diagnosis becomes a matter of the utmost moment. In a typical case the observer feels a thrill at the apex preceding the impulse of the heart; he hears at the base a clear second sound over the aortic valves, an exaggerated one to the left of the sternum, and at the apex a rolling præsystolic murmur, gradually increasing in intensity and leading up to a short and sharp first sound, which is not succeeded by any appreciable second sound. The diagnosis of mitral stenosis under such circumstances admits of little doubt.

But in a second series of cases both murmur and thrill may be absent, and the heart's action regular; and the difficulty of detecting the disease then becomes great. The most striking auscultatory phenomena are accentuation of the second sound at the base to the left of the sternum, and, what is of much greater importance, a peculiar hesitation in the production of the first sound, a kind of hanging-fire, which is easier for the experienced auscultator to appreciate than to describe. Whatever be its origin, whether it be a faint sound caused by the blood passing through the constricted orifice into the ventricle, and so practically a murmur, or be due to a slowly beginning, though suddenly ending, ventricular contraction, it is a phenomenon which at once strikes the ear and suggests the nature of the disease. In these and all other cases of suspected constriction of the mitral orifice, the detection, if possible, of increase in size of the left auricle and right side of the heart, yields valuable corroborative evidence.

There is a third class of cases, in which there may be no murmur, no thrill, no hesitating first sound, but extreme irregularity of the cardiac action, the beats being very frequent and very irregular both in rhythm and in force; so much so that a great many of them produce no pulsation at the wrist. In some cases as many as half the beats of the heart are not felt in the radial artery, so that the pulse there may be moderate in frequency, although the cardiac contractions succeed each other with extreme rapidity. Similar phenomena may likewise be observed in cases of simple dilatation of the heart with degeneration of its walls, such as occurs, for example, in chronic bronchitis and emphysema; but then the patient is usually past middle life. If grave cardiac symptoms be found in a comparatively young person, and if auscultation only reveal extreme irregularity in the heart's action, the presence of mitral stenosis ought to be at once suspected. The administration of digitalis in such cases not only often removes the patient's distress, and produces regularity and normal frequency of the heart's beats, but also facilitates diagnosis. For when the heart's action gets slow and regular, a præsystolic murmur frequently makes its appearance.

Finally, there are cases of considerable mitral constriction which produce no sufficiently well-marked morbid phenomena to enable the observer to detect the presence of heart disease. But the pathologist not infrequently meets with these narrowed orifices in the post-mortem room in patients who have died from other diseases. The reflection is then forced upon him, how extreme some pathological conditions require to be, before they come within range of our present powers of diagnosis.

Anuria from Compression of Ureters by Cancerous Disease.

To the Boston Society for Medical Improvement (*Boston M. and S. Jour.*, March 6, 1884), Dr. Minot showed the specimen, which was taken from a woman fifty-three years old, who entered the Massachusetts General Hospital February 13, and died February 21. She was a widow; never had children or miscarriages. For about three years she had occasionally observed slight discharges of blood from the vagina. For the past six months there had been slight leucorrhœa, soreness above the pubes, frequent micturition, and occasional painful defecation. For four weeks there had been great thirst, polyuria, and itching of the arms and of the anus. She had lost much flesh and strength, but had been in bed only nine days. She was anæmic and sallow. Temperature 99.8° F., pulse 120, respiration 26. On the 14th she passed sixteen ounces of urine in twenty-four hours. This was examined by Professor Wood, who reported it as pale, specific gravity 1008½, neutral, a slight trace of albumen, very large excess of bladder and vaginal epithelium, and also clumps and isolated large spindle-shaped and caudate cells, suggestive of morbid growth, a little blood and pus. On the 15th, one ounce of urine was drawn by catheter, and from that time, during the remaining six days of her life, the patient passed no urine, except about two drachms with a dejection on the 18th. She vomited everything taken, and her breath had a urinous odor. The vomitus of the 20th, also examined by Professor Wood, was found to contain 6.7 grammes of urea to 912 cc. There was pain in the right flank. She retained consciousness to the last, although drowsy much of the time.

The autopsy, made by Professor Fitz, showed that the enlarged uterus filled the pelvis, and was

adherent to the bladder and rectum and to the pelvic walls. The bladder contained half an ounce of turbid urine. On its posterior wall was an ulceration three-quarters of an inch in diameter. The uterine cavity was four inches in depth; the os externum readily admitted the forefinger. The substance of the uterus was transformed into a uniformly opaque, white tissue, from which on pressure sebaceous-like plugs were squeezed. This change extended to the fundus, where there was a round, laminated nodule, easily crushed, but with no sebaceous-like plugs. The left ureter was dilated and tortuous, and obliterated for an inch and a half at the vesical end by means of a soft gray new formation. The left kidney formed a sacculated tumor of the size of the fist, only a thin seam of renal tissue being left. The right ureter was dilated, the vesical opening was the size of a pin, and the course of the vesical end tortuous. The right kidney was half as large again as the left, its surface grayish-white, the cortex easily detached, increased in thickness, anæmic, not opaque; tubular regions indistinct; pelvis moderately distended. Lymph glands over promontory of sacrum enlarged to the size of an English walnut; on section white, and homogeneous, and numerous sebaceous plugs were squeezed out on pressure.

An interesting feature of the case was the diagnosis of morbid growths by means of the microscopic examination of the urine; also the evidence of the partial elimination of urinary constituents by the lungs, and probably also by the mucous membrane of the stomach. The preservation of consciousness along with urinary suppression is remarkable, but not very unusual. Dr. Minot had before reported to the Society a similar instance. The treatment consisted mainly in the subcutaneous injection of pilocarpine, in the hope of relieving the kidneys through vicarious action of the skin. Dr. Minot showed two microscopic specimens, kindly prepared by Dr. H. F. Vickery; one was taken from the enlarged glands in the lumbar region, and the other from the uterine tissue. They showed the characteristic alveolar structure of flat-celled cancer.

Lesions of the Eye Due to Rheumatism.

From a foreign exchange we learn that Professor Panas lately delivered a very interesting lecture at his clinic at the Hôtel Dieu on this subject. He began with the statement that the relation between affections of the eye and the different diatheses was little known among the ancients, and it was only at the end of the last century that the idea of connecting rheumatism with diseases of the eye was entertained. The classification of ocular affections was somewhat confused as regards the diathesis. Thus we find acute glaucoma classed among the rheumatic affections of the eye. In our own time there is less confusion in the classifications; but, notwithstanding the improved methods of diagnosis at our disposal, there is yet a great deal to be done in the way of assigning each disorder or group of disorders of the eye to its proper diathesis. For instance, iritis is, for the most part, ascribed to syphilis; it is, indeed, the tendency of the day to put down almost every manifestation of disease to that affection. According to M. Panas, the proportion of iritis due to syphilis is not nearly so great as is generally given in classical works on ophthalmology, and a larger margin may be left for rheumatismal iritis, with which iritis of syphilitic origin is so frequently confounded. The one is perfectly distinguishable from the other, the former assuming always the serous form, whereas the latter assumes the plastic form. Rheumatismal iritis is, therefore, also termed serous iritis, and is accompanied by extravasation of fluid into the anterior chamber of the membrane of Descemet, which M. Panas considers pathogomonic of this affection. Moreover, the synechiæ that are produced in rheumatismal iritis are easily broken; this is an important element in the prognosis of the disease, and is to be met with only in rheumatic subjects, particularly of the chronic form; it is very frequently also found among gouty individuals, but it exists rarely as a complication of acute articular rheumatism. The cornea is less susceptible to the influence of rheumatism; and, strange to say, the sclerotic is not mentioned in this connection, as *a priori* the fibrous nature of this membrane would seem to point to it as the seat of predilection of the manifestations of a rheumatic or gouty nature. After entering into considerations of other parts of the eye in connection with rheumatism, Prof. Panas stated that ophthalmologists are as yet undecided as to classifying conjunctivitis among the manifestations of rheumatism, as it is so easily confounded with conjunctivitis resulting from other causes. As regards treatment, the lecturer dwelt upon the necessity of combining general with local measures, keeping in view the diathetic connection that may exist between the rheumatism and the ocular affection, without which the treatment must end in a lamentable failure; thus, salicylic acid for the rheumatic diathesis, mercury for the syphilitic, colchicum for the gouty, and iodine for the scrofulous.

Visceral Lesions in a Case with Epileptiform Attacks.

To the New York Pathological Society Dr. R. W. Amidon gave the history of a case of epileptiform attacks occurring in a boy seven years of age, of very bright intellect, coming from a neurotic family. When three years of age he suffered from measles, which were followed, according to the mother's statement, by general œdema; and at about the same time spells developed, which were treated by the attending physician with bromide of potassium, ten grains three times a day. At the time when Dr. Amidon saw the patient, there was an eruption from bromism upon the legs, face, and forehead, which readily disappeared on discontinuing the medicine. Respecting the attacks, Dr. Amidon said the following facts were against the idea of epilepsy: first, he had never known a person to have seventy-two regular epileptic convulsions in as many hours, and yet retain comparatively good health and a clear head, as this patient had done. Second, the child had a distinct recollection of each convulsion, and was always able to foretell their occurrence. Third, it never uttered a cry before the convulsion. Fourth, it never bit the tongue, nor frothed at the mouth. Fifth, there was preserva-

tion of sensibility and resistance to opening the eyelids during the attack. Certain of these facts led to a diagnosis of hystero-epilepsy and a favorable prognosis. The remedies employed in the treatment were aqueous extract of opium, cannabis indica, quinine, iron, tonics, regulation of the diet. There were symptoms of improvement under treatment, but relapses occurred. Death finally took place from œdema of the lungs and heart-failure. At the autopsy, the stomach was found dilated, the spleen enlarged and congested, the kidneys congested, with atrophy of the cortex. The right ventricle of the heart was dilated, and there was fatty substitution in its walls; the left was concentrically hypertrophied; the right auricle was thinned and dilated. The brain was normal and well developed. Had the condition of the stomach been recognized during life, he should at once have resorted to hypodermic medication.

Reviews and Book Notices.

BOOK NOTICES.

Estudios Clinicos de Neuropatologia. Per Jose Armangue y Tuset. 1 vol., 8vo., pp. 244. Barcelona, 1884.

The study of the nervous system, in its various relations, has long occupied the attention of Dr. Armangue, and in this volume he collects a number of articles which he has from time to time contributed to the medical press on this subject. They are characterized by extensive reading, and also by the fruits of close clinical observation. He combines a thorough theoretical knowledge, with the habit of bringing it to bear on points in practice, which is something always pleasant to note in an author.

Practical Pathology. By G. Sims Woodhead, M. D., Demonstrator of Pathology in the University of Edinburgh. With 136 Colored Plates. 8vo., pp. 484. Philadelphia: H. C. Lea's Son & Co.

There are many treatises on pathology, but none devoted to the methods of studying, examining, and preparing morbid tissues. This want the author of the above work aims to supply; and he has succeeded in a very creditable manner. His directions are full and clear, and the numerous illustrations, in colors, of morbid products, natural and stained, are really beautiful.

The first chapter defines the methods of making a post mortem examination. The remaining thirteen take up one part or organ after another, explain its normal structure, and then recite and illustrate the various pathological changes to which it is liable, with the appropriate treatment to develop its microscopic character, and to prepare it for demonstration. To the student of pathology who knows how to handle his microscope, we can recommend no better book than this as a guide in his investigations.

The Cinchona Barks, Pharmacognostically Considered. By Friedrich A. Flückiger, Ph. D. Translated, with Notes, by Frederick B. Power, Ph. D., Professor of Pharmacy in the University of Wisconsin. Philadelphia: P. Blakiston, Son & Co. Price, $1.50.

Prof. Flückiger, of Strasburg, is one of the highest living authorities on drugs, and this monograph is worthy of his reputation. It treats of the botanical origin and species of cinchona, its natural habitat, varieties, its culture in different parts of the world, spurious barks, chemical constituents, estimation and manufacture of its alkaloids, history of its introduction, and bibliography of the subject. Eight lithographic plates, of a botanical character, are appended.

The translation leaves something to be desired. The German idiom is occasionally followed so closely that the sentences are obscure.

The International Encyclopædia of Surgery. Edited by John Ashhurst, Jr., M. D. Vol. IV., pp. 987. William Wood & Co., New York.

The contributors to this volume of this important work are Dr. John H. Packard, on injuries of the bones; Mr. Richard Barwell, M. R. C. S., on injuries of the joints; Dr. John Ashhurst, on excisions and resections; Dr. George E. Fenwick, on excision of the knee-joint; Mr. H. T. Butlin, M. R. C. S., on tumors; Dr. John A. Lidell, on injuries of the back; and Mr. F. Treves, M. R. C. S., on malformation and diseases of the spine.

Of the general excellence of the work it is superfluous to speak. Each of these writers contributes a careful monograph on the subject of his choice, and the reader cannot complain of anything but an excess of matter. There is perhaps too diffuse citations of cases, and the bulk of a large octavo of a thousand pages is rather discouraging to the average reader.

In an examination of the several articles, that by Dr. John H. Packard, on fractures, and that by Mr. Butlin, on tumors, have impressed us as being particularly satisfactory, the matter being exceedingly well arranged, and presented with great clearness and compactness.

Quite a number of lithographs, plain and colored, and wood cuts, embellish the volume, and add to its usefulness.

—Last year the students at Edinburgh University numbered three thousand three hundred and forty. When its new buildings are completed it will be the largest university now existing.

THE

Medical and Surgical Reporter,

A WEEKLY JOURNAL,

ISSUED EVERY SATURDAY.

D. G. BRINTON, M. D.,
JOSEPH F. EDWARDS, M. D., } EDITORS.

The terms of subscription to the serial publications of this office are as follows, payable in advance:—

Med. and Surg. Reporter (weekly), a year,	**$5.00**
Quarterly Compendium of Med. Science, -	**2.50**
Reporter and Compendium. - - - -	**6.00**
Physician's Daily Pocket Record, - -	**1.50**
Reporter and Pocket Record, - - - -	**6.25**
Reporter, Comp. and Pocket Record, - -	**7.00**

For advertising terms address the office.

Marriages, Deaths, and Personals are inserted free of charge.

All letters should be addressed, and all checks and postal orders drawn to order of

D. G. BRINTON, M. D.,
115 South Seventh Street,
PHILADELPHIA, PA.

THE

QUARTERLY COMPENDIUM

OF

MEDICAL SCIENCE.

The COMPENDIUM, formerly published every six months, appears now *every three months*. It is compiled with special reference to being taken *with the Reporter*, and none of the articles which appear in our weekly are reproduced in our quarterly publication. It is made up exclusively from other sources.

Each number of the *Quarterly Compendium* contains 150 pages of reading matter, carefully selected from American, British, and European medical journals, with a special view to the wants of the American physician. It is on excellent paper, and neatly bound in pamphlet form, with full table of contents and index.

The price of the COMPENDIUM is 75 cents a number, or $2.50 a year; and it will be found well worth it. But when taken with the REPORTER, we offer the two journals at the very low price of SIX DOLLARS, when paid for *strictly in advance* and directly to this office.

THE DIET CURE.

A most fruitful field for investigation, and one that has been comparatively little explored, is that which will unfold to us the intimate influence of our different articles of diet upon the human body in health and disease. When we realize that the food taken into the stomach is destined to be carried to and become most intimate integral portions of every tissue and organ in the body, we must perforce recognize that the nature of our food must have considerable influence upon the nature of the constituents of our bodies, and if, as it seems reasonable to suppose, chronic diseased conditions are characterized by alterations or changes in the composition of our bodies, then might we be allowed to reason, that if we send certain pabulum to these organs and tissues certain effects will result.

Is it too far-fetched to suppose, that the same results which we now achieve by sending drugs to the tissues and organs, may be accomplished by the sending of proper articles of diet?

Food and drugs are each composed of an aggregate of elements that certainly must have definite action on the tissues and functions of our bodies. In this connection it will be interesting to read the following communication from Dr. T. R. Allinson in the *Brit. Med. Jour.*, December 29, 1883:

"I have just concluded an experiment which I think may be of service, or may lead to some observations which may be of use in the prevention and cure of disease. I have discontinued the use of flesh meat for nearly two years; but, on October 19, I left off the use of all animal products, such as milk, butter, cheese, eggs, and honey. My weight was then 9 stones 8 ounces. In a month's time (the time my experiment lasted), my weight was 9 stones, 3 pounds, 12 ounces, or a gain of 3¼ pounds. The change was not pleasant at first, as I gave up the use of salt and pepper as well; my food tasted mawkish, and I was soon satisfied; but a week's practice soon made me relish my food, and now salt tastes distasteful. My usual exercise is from ten to fifteen miles a day, and I went on the same as ever, and I seemed none the worse for my change of diet. I even lost my mild bilious feelings, which butter and cheese give rise to. I only broke my experiment once, and that was on November 14, when I had

a piece of cake which had an egg in it, but no butter. I calculated I took then a sixteenth of an egg.

My food was as follows: Breakfast, at 9 a. m., consisted of porridge made from equal parts of oatmeal and wheatmeal. This was followed by a cup of hot water, flavored with fruit syrup and sweetened with sugar. At the same time, I had some bread fried in refined cotton-seed oil, or vegetable haggis fried in the same, the haggis being composed of oatmeal, wheatmeal, tapioca, mixed herbs, and Spanish onion, boiled in a cloth like a pudding. Dinner was taken at 2 or 3 p. m., and consisted of a thick vegetable soup eaten with wholemeal bread, or potato and onion pie, savory pie, vegetarian pie, vegetable stew, stewed rice and tomatoes, etc. This was followed by a bread plum pudding, stewed figs, prunes, or raisins, and bread, or stewed rice and these fruits, etc. Tea meal, at 5.30 p. m., consisted of some fruit syrup and water, or a sup of cocoa. I had with it some bread and jam, stewed fruit, or green stuff, as celery, tomatoes, watermelons, etc. Frequently I had only two meals a day, and a cup of cocoa and a biscuit at 8 p. m. The cost of my diet was a little over twelve cents a day, and I could easily live for less. The quantity was not more than my usual amount. Now I have again returned to milk, butter, eggs, and cheese, when out visiting, but rarely are they seen on my own table.

I think the diet-cure will be found the philosopher's stone of medicine; by diet we can in a great measure prevent seven-tenths almost of our present diseases; or, if disease has set in, then simple food will allow the patient to recover most quickly. Most of our modern diseases can be traced to dietetic errors; excessive flesh-food, and want of active outdoor exercise and fresh air, must be blamed for our diseases. All stomach-complaints, as indigestion, dyspepsia, gastric catarrh, biliousness, congestion of liver, jaundice, gastro-enteritis, hemorrhoids, etc., are due to excess or wrong kinds of food; whilst biliary calculi, urinary calculi, rheumatism, gout, atheroma, Bright's disease, and apoplexy, all point to excess of nitrogenous material, which the system cannot get rid of, and so it remains and produces disease. The kidney being blocked up, more work is thrown on the heart, which then hypertrophies or becomes enlarged, the lungs share in the back-working, and thus the whole system becomes affected. Most of these diseases can be cured, or at least relieved, by a non-flesh diet. Epilepsy is often cured, and always relieved, by such a diet; and even cancer's wasting hand may be partially stopped. Most chronic cases can be relieved by our diet, and I have known some severe cases of general eczema cured by it alone.

The subject is well worthy of the study of our scientists; and, if possible, I intend showing by experiment how urinary calculi may be dissolved by diet, and so the operation of lithotrity and lithotomy be avoided in many cases. The great secret of medicine must be, first, prevention; and, second, where disease already exists, its cure. If any one would like to try this diet, I shall be glad to forward them a cookery-book containing over ninety recipes, on receipt of two stamps for postage, etc. It contains many dishes suitable for invalids, convalescents, those in delicate health, and others."

The thoughts suggested in this communication are well worthy of elaboration, and we doubt not that a careful, extended, and concerted inquiry in this direction would be productive of most beneficent results.

THE CASE OF DR. BERNARDY.

Dr. E. P. Bernardy, of the Blockley Hospital, who had charge of the recent epidemic in the Children's Asylum, has handed his resignation to Poor Guardian Ruhl, with the request that it be presented to the Board at its next meeting. The letter reads as follows:

No. 221 South Seventeenth Street,
Philadelphia, February 25, 1884.

To the President and Members of the Guardians of the Poor:

Gentlemen: Feeling that my course in not calling a consultation early in the epidemic (which I learn has not been usual) has been unsatisfactory to some of the members, I hereby tender my resignation as member of the Obstetrical Staff of the Philadelphia Hospital—at the same time feeling that I have performed faithfully and conscientiously my whole duty. Respectfully,

E. P. Bernardy.

When a man is persecuted, he should be defended; this is a law that is recognized by every right-minded man. We speak from experience, when we say that Dr. Bernardy is right when he says that it has not hitherto been customary to call for consultation in time of epidemics in Blockley. We know of an epidemic of puerperal fever in that institution, wherein thirty out of seventy-five parturient women died; no consultation was held, and no fuss was made about it. We do not argue that such is right and proper: we merely state that such has been the case.

Again, it is well known among all those who know anything about Blockley, that great mortality among the foundlings, when disease gets in among them, is always looked for; the inmates of the Children's Asylum are, for the most part, the offspring of illicit love, crime, drunkenness, and disease; they have been usually abandoned by their parents and subjected to exposure before being brought to the institution, by which the little vitality they have received at birth has been seriously deteriorated; hence they lack the stamina to successfully resist the inroads of disease. We do not wish to be understood as defending Dr. Bernardy's action in not calling for a consultation; for if such a regulation had been passed by the Board of Guardians, and he failed to comply with it, then he was derelict in his duty, and deserved punishment; but if such a regulation had not been made, and we have not heard that it had been, then we say that Dr. Bernardy was unjustly treated, because he was acting in accordance with the *customs* of the institution. Dr. Bernardy may be unpopular (we know nothing about this matter), but the request for his resignation was surely not justified by his action. We have had no conversation with any one about this case, but we feel that a forced resignation from an official position is so calculated to injure a man's reputation, that a vindication should be offered when the premises clearly warrant it. We venture to say that personal considerations had much more to do with Dr. Bernardy's removal than any infringement of rules or neglect of duty.

THE PROPOSED NATIONAL PHARMACOPŒIA.

Some surprise has been manifested in certain quarters that a bill was introduced into the House of Representatives to prepare and publish a National Pharmacopœia. The chief of the Marine Hospital Service, of the Navy, and of the Army are each to detail two medical officers, and the officers are to invite the American Medical Association and the American Pharmaceutical Association to form committees of not more than three members, and thus constituted, this board shall proceed to the work of forming a new pharmacopœia, which will be published by the Government.

An article in a contemporary tries to make it appear that this project arises from a local rivalry; also that a revision is not needed; and, finally, that the attempt will fail.

Perhaps it will fail. Many laudable efforts do. But we take this occasion to remind the profession and the pharmacists of the United States that the publication of the last edition of the Pharmacopœia was the result of an arrangement which had all the appearance of a discreditable "deal" between the Committee of Publication and a publishing house. We pointed out the facts at the time, gave the names of the committee, and called on them for an explanation. (See REPORTER, vol. xlviii, page 105.)

Did they offer any explanation? No. They trusted to silence rather than to trust to an open statement.

Other journals, both of pharmacy and of medicine, repeated these accusations, supporting them with documents. Still no reply from the committee.

The *method of publication*, therefore, stands convicted as an unsound one before the country. The result has been that a publishing house has reaped a rich harvest at the expense of physicians and pharmacists, at the expense of the copyright holders, and at the expense of the good repute of the Committee of Publication.

Was the revision well done? It has been severely criticised, certainly in some respects justly. There can be no doubt but that it would be a great advantage to have it repeated. The complimentary words of a few reviewers cannot stand against the opinion of those who have studied the volume carefully. It is altogether to the interest of both parties interested—pharmacists and physicians—that the Pharmacopœia be a government publication.

THE VIVISECTION QUESTION.

The interest in restraining vivisection continues active in this city. It is, however, not illiberal,

as it has been represented in some quarters. One of our city contemporaries, for instance, writes editorially: "Years ago we offered to accept such a bill as has since been passed in Great Britain. Happily, hysterical counsels prevailed, and the ladies concerned promptly refused any aid which did not concede total abolition."

This is an error. A copy of the bill advocated by the ladies (*i. e.*, the Women's Branch of the Pennsylvania S. P. C. A., Mrs. C. E. White, President) is before us, and it permits any experiment or demonstration whatever under anæsthesia, and any experiment or demonstration without anæsthesia, except such as are "for the purpose of illustrating or demonstrating any fact, process or theory already known to science or medicine." In other words, it did not throw any obstacle in the way of original research. Furthermore, we have the best authority for saying that the ladies never refused any proffered aid in urging this bill.

It is our own opinion that this whole matter of vivisection should be left to the conscience of the profession. We should not object to such a bill as was proposed, except that it assumes to dictate where dictation is out of place—in the conscientious pursuit of scientific truth. No instance has come to our knowledge in this commonwealth where a physician has been charged with needless cruelty to animals used for this purpose. We consider, therefore, that the ladies and their male friends who agitate in this matter are acting unnecessarily and unwisely. There are a thousand cases of human suffering, yes, ten thousand, in this commonwealth, which call for relief, to one case of a cat or dog; and to the simplicity of our mind it would seem more in keeping with true benevolence to look after the former. For all that, we would not have these excellent ladies remain under the burden of any erroneous imputations.

Notes and Comments.

An Improved Method of Treating Skin Affections.

Though not new to dermatologists, yet the general profession are not familiar with the method of applying treatment to skin diseases, about which Dr. P. Albert Morrow writes in the *Medical Record*, March 1, 1884:

The method consists essentially in the application of medicinal substances to the skin in the form of fixed, adhesive preparations. Its object is to confine the application of the drug to the diseased surface alone, and to secure its continued action by maintaining it in prolonged contact with the tissues by means of a practically immovable dressing.

For the attainment of this object a number of procedures have been employed:

1. Applying the drug in the form of a powder or paste, and retaining it in position by means of a protective coating formed by a layer of collodion or a piece of gutta-percha tissue.

2. By an admixture of the drug with a gelatine mass, which is painted over the surface, forming a thin adherent layer, with the addition of glycerine to render it soft and pliable.

3. By the application of a thin layer of collodion or gutta-percha solution, holding the drug in liquid suspension.

4. By incorporating the drug with adhesive plaster muslins, the basis of which is gutta-percha, which are cut into convenient shape so as to admit of accurate adjustment to the affected surface.

It may, perhaps, be considered premature to pronounce positively upon the merits of these preparations, or to decide closely their range of therapeutic application; yet a careful study of the results of their use in the hands of others, supplemented by his own experience, justifies Dr. Morrow in formulating the following conclusions:

That the introduction of fixed, adhesive applications in the treatment of certain forms of skin affections, marks a veritable advance in cutaneous therapeutics.

That they are admirably adapted for the employment of certain powerful stimulating drugs recently introduced into dermatological practice, as well as other standard drugs.

That they constitute the most effective mode of applying drugs in certain pathological conditions characterized by hyperæmia of the derma with inflammatory overgrowth of the epithelial elements, as in psoriasis and dry, scaly eczema.

In conditions characterized by hyperplasia of the cuticle, as in callosities, corns, and overgrowths of thickened, hardened epidermis, etc.

In conditions of capillary congestions of a passive character, as in acne rosacea, chronic erythema, etc.

In certain neurotic conditions, not only in essen-

tially pruriginous diseases, as prurigo, but in the pruritus symptomatic of other affections.

In circumscribed lesions generally, as tinea circinata, tinea capitis, eczema marginatum, chromophytosis, syphilitic scleroses, lupus, and, possibly, epithelioma.

Sacrache and Back-Ache.

In the course of some interesting lectures by Dr. J. Mathews Duncan, in the *London Medical Times*, we note the following, which is possessed of practical interest:

There is no more common, and therefore no more important, symptom of uterine disease, and especially of disease of the neck of the womb, than sacrache. The pain is dull, or an ache rather than pain: it is situated at or near the base of the sacrum; and, referring to it, the patient puts her hand to the part. I say with emphasis "at or near," and it is desirable to make this more definite. A pain below the middle of the sacrum is not at or near, and a pain above the middle of the lumbar spine is not "at or near." Such pains and aches do not point to the womb as the characteristic sacrache does; but the characteristic sacrache only points in that direction: it is not in itself nearly sufficient, not even strong, evidence of disease of the womb. Occurring in a virgin it would not, alone, unless very severe and inveterate, lead you to make an actual examination of the womb.

Other back-aches, that is pains in other regions of the back, not the sacrache, may accompany uterine disease, but do not point to the womb, are not symptoms rationally held as indicating womb disease. Unfortunately women are, at present, so under the influence of bad medical instruction, that they regard all pains in the back, from the occiput to the coccyx, as nearly sure indication of uterine mischief, and demanding uterine treatment.

The sacrache of womb disease may be constant, but generally it comes and goes. Frequently it is dispelled by lying, is felt on going to bed, and has disappeared before morning, and long standing makes it reach its highest pitch. When it is otherwise, that is when the ache is worse in the morning before getting out of bed, or is relieved by walking, then it is certainly not uterine.

I have said that you must not regard all sacraches or other back aches as uterine. They are common in men and in women. A weakly woman, who attends to all her pains, can do no standing or walking without back-ache, and often it is a sacrache; especially, if she has a long back, will she suffer in this way.

The pains liable to be confused with real sacrache are all in the lower back, about the lumbar spine: it is only such that might mislead any rational physician. Regarding them you will get some light from noticing the causes of the same pains in men. Now I find that weakly men are liable to these aches, sacral or lumbar, on walking or standing; and in many they are produced by excessive venereal indulgence.

Alcoholic Leg-Pains.

In the *Brit. Med. Jour.*, Dr. T. Clifford Allbut writes:

"In the *Journal* of January 26, I observe a letter from 'Quærens,' who asks concerning 'tibial pains' in a hard drinker. These pains are so characteristic and so often met with, that I feel surprise that they have received but little attention. Indeed, I cannot call to mind any description of them in medical literature, nor do I find that my medical friends know much of them. These pains are commoner in women than in men; they are often tibial in distribution, but occur also often about the ankles and feet. They are usually associated with marked cutaneous hyperæsthesia. I have diagnosed in women many a case of secret drinking by these pains alone. Indeed, if a woman were found to complain bitterly of pains in the legs below the knees, pains somewhat nocturnal in occurrence, and as severe as those of syphilitic periostitis; if she resented any free handling of the limbs; if, again, she lay with legs adducted, extended, and with the feet pointed, much as in lateral sclerosis, but without permanent rigidity; if for all this outcry there were no visible cause whatever, the tibiæ smooth, and no more sign of spinal disease than perhaps a slight ankle-clonus, then I should, almost without hesitation, infer that alcohol was the cause. As 'Quærens' finds, the pains cannot readily be eased, and can be cured only by time, with abstinence. In his case, I suspect the cause is still in operation. For my own part, I tell my patient how he is to promote his own cure, and am not sorry to use the pains as an argument for abstinence. I feel little doubt that the cause of them lies in the irritation of the spinal cord or its membranes."

Dr. A. is an authority, but the question suggests itself to us, whether these pains are not really syphilitic in character. We do not mean to say that all hard drinkers are syphilitic, but we do believe that the majority of syphilitics are hard drinkers. A sober man is usually careful about sexual intercourse, while if the question were put to all

syphilitics, we feel that the greater proportion would answer that the intercourse from which they contracted the disease was indulged in when drunk and irresponsible. Having become syphilized, the spirits are naturally much depressed, and, in many cases, spirits are poured down to keep the spirits up. Again, it is well known that alcohol has a tendency to exaggerate the symptoms of syphilis, no doubt by its depressing influence on the general system. In this last fact may possibly be found an explanation of the fact that the pains were cured by abstinence.

The Pathology of Puerperal Fever.

When Dr. C. C. Lee (New York Pathological cal Society) says that a woman died of "unmistakable puerperal fever," one is inclined to ask, what is "puerperal fever?" in view of the diversity of opinion on the subject which recent discussions in New York have brought forth. Puerperal fever is a very safe expression, because in all these cases there is undoubtedly fever, and since this fever occurs in a puerperal woman, it must perforce be *puerperal fever*, no matter what the cause may be. The specimens which Dr. Lee presented argue strongly in favor of the view that puerperal *fever* is due to puerperal *septicæmia*, whether the septicæmia be due to the entrance of disease germs from without or to the results of decomposition of placental fragments and blood-clots that have been retained in an imperfectly involuted uterus—which latter view receives the sanction of Professor Parvin to a certain extent, who seems to believe that the placental and blood-clot debris furnish nourishment to the germs from without. The italicized words (our own italics) that follow will make this view clear.

Examination of the abdomen only was allowed. The intestines were distended with gas. The peritoneum was cloudy and covered with a pellicle of fibrin and pus, best seen where the coils of intestine came in contact. There was a small amount of sero-purulent fluid within the peritoneal cavity. The stomach was enormously distended with gas. The uterus was partially involuted. There were no adhesions. The outer surface of the organ was pale. There was no exudation upon it. There was no evidence of cellulitis. The uterus was opened on the anterior, and the *interior was found to contain dirty brown granular matter, irregularly heaped up, the greatest thickness being about one-eighth of an inch. The odor was offensive, although not strictly fetid. These pulpy masses seemed to be from broken-down clots.* No fibres were found, and they were easily washed away. *Inflammatory products, pus and fibrin, in small amount, thinly scattered over the whole of the inner surface, more especially in the lower half.* The kidneys exhibited no evidence of pathological change.

Suspended Animation.

A very interesting theological question is raised by the following case reported by Dr. W. Augustus Norry in the *Brit. Med. Jour.*, January 26, 1884:

I was called to attend A. B., a primipara, who was stated to be in the seventh month of pregnancy. I found the os slightly dilated, and labor commenced. About eight hours afterwards, the patient was delivered of a seven months' female child. When born, the child was apparently dead. Artificial respiration was performed, the heart then feebly pulsating; cold and hot baths, with slight blood-letting from the umbilical cord, were also tried. This produced one or two gasps, but the limbs became cold, and the heart's action stopped. After half to three-quarters of an hour had been spent in fruitless endeavors to restore animation, the child was given to the nurse as dead, and placed in a flannel. It lay there for about two hours. When the nurse went to move it to a proper place, she observed it give a gasp, whereupon she put it into a warm bath; and after a while its color and the heart's pulsations returned. It lived about fifteen hours.

The point of interest to a general practitioner from this case is the question, How long should an attempt to restore life be made?—as to a busy man it must of necessity be a very material point whether he has to stay half an hour or two hours after the heart and respiration have both stopped. On the other hand, a life is at stake, and the interest of that young life must be duly considered.

If in similar cases the child is regarded as dead, and no efforts made to resuscitate, what will be the future condition of that child?—for in such a case a living being has died without baptism!

Sea Voyaging.

We are so accustomed to recommend a sea voyage to a patient whom we are not able otherwise to benefit, that it has become a therapeutic routine, and we rarely hesitate to consider the appropriateness of our recommendation. In the *Lancet*, February 23, Dr. Farquhar publishes a paper on Sea Change, the Effects of Voyaging, with cases. He remarks on the paucity of information on this subject, Dr. Faber being the only observer who

had gone to work systematically. Dr. Farquhar's observations on a voyage last winter up the Mediterranean led him to the belief that many unsuitable cases are sent a-voyaging by medical men; and in the event of such a rigorous winter as that of last year, even in Italy and Greece, the disappointment to invalids in search of health must be great. He then gives details of the various cases that came under his care and observation. The most pronounced benefit was obtained by most of the phthisical cases, but some left the steamer before the tonic and stimulating action of the sea air had made itself felt, unnerved by the hardships endured in a storm experienced on leaving the Mersey. Voyagers suffering from the effects of overwork and mental strain did well; but "specific" cases showed the most marvellous results, complete recovery being the rule. Dyspeptics did not do well, nor subjects of skin disease of a nervous origin. To sum up, his experience in this voyage led him to believe that no diseased condition where the nervous, irritable element was present had much chance of benefit: the sea-air stimulus was in the end too powerful through its constancy. Such cases should land after the first beneficial stimulation, which generally occurred within the first three or four weeks of the voyage.

Confinement vs. Consumption.

We all know that fresh air and consumption are very antagonistic, and as affording additional evidence of this, the observations of Dr. Baer, chief medical officer at the Plötzensee Prison, near Berlin, have demonstrated the fact that the mortality in the State prisons for the three years 1878 to 1880, represented an annual death-rate of 30.6 per thousand. In describing the general results of his experience, in the *Zeitschrift für Klinische Medicin*, he alludes to the fact that previous to the improvement in prison arrangements, which was brought about early in the present century, malignant typhus, gaol fever, and small-pox, decimated the inmates of such establishments. At a later period, when, notwithstanding the advances made in the direction of reform, prisoners were kept in unhealthy cells, and were fed insufficiently as well as injudiciously, scorbutic affections and diarrhœa became frequent. Now that in most instances the arrangement of prisons is in accordance with sanitary requirements, it would seem that consumption has taken a leading position amongst the recorded causes of mortality. Various statistics as to the last fifty years are quoted by Dr. Baer in confirmation of these assertions. As to the institution under the care of Dr. Baer, it would appear that between 1873 and 1882 only 6½ per cent. of the deaths were attributed to consumption, but out of 112 cases in which prisoners were discharged upon medical grounds, 45 were suffering from the disease in various stages. As to the disease being brought on by confinement in prison, Dr. Baer considers this is proved by the facts that the greatest mortality is traced to the second and third years of captivity, and that persons in solitary confinement have been found to be frequently attacked by the disease in question.

Near-sighted Children.

At a recent discussion in England on the growing frequency of myopia in schools, one of the speakers mentioned the importance of any improvements that would keep the scholar's eye at a good distance from his task. The ordinary slates in common use have long been felt to be unsatisfactory, on account of the little contrast between their surfaces and the markings of the pencil, and which was rendered even less when the slate had become greasy. Allusion was made to the greater contrast of pen and ink marks on white paper, and to the experiments in schools at Zurich, under Professor Horner, where ink and paper were adopted in preference to slates. Cohn, of Breslau, had, however, devised white composition slates. An ordinary lead, or a specially used black pencil, was employed. Other marks were easily erased. Reference was briefly made also to the printing of school books, and to the very valuable and interesting articles in the *Annales d' Oculistique* some time since on the "Physiology of Reading," by Javal. This observer has made the important discovery that on reading the eye runs along the upper part of a line, and see it more clearly than the lower half. Examples of printing illustrating this were shown, and the explanation by Javal was mentioned, as well as the hints this observer drew from this fact for the formation of type.

Hyperosmic Acid for Neuralgia.

From the *Med. Record* we learn that a one per cent. solution of this drug has been used subcutaneously. It has been employed in Billroth's clinic in a few cases. One of the patients had been a martyr to sciatica for years, and had tried innumerable remedies, including the application of electricity no fewer than 200 times, while for a whole year he had adopted vegetarianism. Billroth injected the above remedy between the tuber ischii and trochanter, and within a day or two

the pain was greatly relieved, and eventually quite disappeared. It would be rash to conclude too much from these results, in the face of the intractability of neuralgia to medication; but if it really prove to be as efficacious as considered, hyperosmic acid will be a therapeutic agent of no mean value.

A Caution about Jequirity.

After reporting a case of sloughing of the cornea after the use of jequirity, in the *Weekly Medical Review*, February 23, 1884, Dr. S. Pollak formulates as follows:

1. Jequirity is by far the best remedy which has been hitherto used for trachoma and pannus.
2. It does all, and more speedily, that has ever been claimed for purulent inoculation, minus the repulsiveness of the last remedy.
3. The infusion of jequirity must be used only when perfectly fresh. After four or five days it swarms with bacteria, when the danger of their entering the tissue and causing a septic state is very great.
4. Sterilizing the infusion requires much care and labor, and may not always be practicable. It will doubtless retard the decomposition, but it will not prevent it entirely.
5. The full therapeutic utility of jequirity will only be attained when chemistry shall have succeeded in preparing an alkaloid of it, which will keep, and the strength of it is properly known.

Calcification of the Pleura Costalis.

As evidencing how wonderful may be the morbid processes going on within the body, we note the following from the *Brit. Med. Jour.*, January 26, 1884: At the *post mortem* examination of a man who had died of cancer of the stomach, at the Hôpital St. Antoine, M. Gilbert found a thick plate of bone-like material covering the internal surface of the ribs on the right side, from the sternum to the vertebral column. This plate measured 12 centimetres in height, and 20 in breadth. Its external surface was smooth, and separated from the ribs by connective tissue, while the internal was rough, and adherent in some places to the lung. Chemically, the plate had very nearly the same composition as bone, but the microscopical examination showed that it was only fibrous tissue loaded with lime-salts.

Bert on Chloroformization.

A foreign exchange notes that M. Bert promises to arrive at a method of administering chloroform mixed with oil, which will render the use of an apparatus unnecessary, but will yet be superior to that which consists in the application of a compress, saturated or moistened with the anæsthetic administered. He observes that it is barely possible that country practitioners who are only occasionally called upon to use chloroform, can purchase an instrument costing $40, and keep it in order. Therefore, at a future meeting of the Biological Society, he will describe a method he calls *procédé de campagne* (country method), in contradistinction to the *procédé de ville* (town apparatus), when an apparatus is used.

Woman's Place in Nature.

If the result of the highest vitality is the most perfect product, we can scarcely refuse to the female the advantage over the male. It appears to be a well-established fact that an important source of sexual determination is nutritive as far as ovum development is concerned: that is, when the force becomes partially exhausted, the result is the production of males; when the ovum is in the maximum of sexual potence, then the production is invariably females. Does not this seem to indicate that there is something finer, subtler, more perfect, in the organization of woman?

Modern Operations for Cataract.

Mr. Brudenell Carter thus tersely summarizes his three lectures on this subject: They showed that the performance of iridectomy as a preliminary operation, and the subsequent employment of a comparatively small section through the tunics of the eye, have combined to render the extraction of cataract a more simple, and hence a more frequently successful operation than it has been at any previous period, and that these improved methods now enable surgeons to deal with the disease at a comparatively early period of its history.

For Flesh Worms.

Hager's Pharm. Cent., December 27, 1883, has the following:

Sixty-five grammes pure kaolin, fifty grammes glycerine, and thirty-three grammes dilute acetic acid, well mixed and formed into a paste and applied upon parts afflicted before retiring to bed, and left until next morning. The following evening rub parts at first gently with levigated pumice-stone upon flannel, and then increase friction. This treatment is continued alternately, one evening with paste and the next with pumice, until the flesh-worms have disappeared.

CORRESPONDENCE.

Answer to Gynæcological Queries.

EDS. MED. AND SURG. REPORTER:—

"Medica's" query No. 1 in your valuable journal, February 23, gives the symptoms that if varied in some cases would describe the condition of many patients that fall into the hands of physicians; and, like M.'s patient, they generally pass through the hands of all the doctors within their reach, with but little or no improvement. I have reference to the rural practitioner. Of course there are specialists in the larger cities whose experience and facilities enable them to relieve promptly and permanently a large majority of patients similar to the one under consideration; but unfortunately it is not possible for the greater portion of suffering women to avail themselves of the skill of the specialist, hence there is the great mass that must depend on the skill of the country practitioner for their health and happiness, and it is for the benefit of this class I call the attention of the reader.

That the treatment of this class of patients as practiced by the rural doctors is unsatisfactory, I do not think there can be any doubt; and, like M., there are, perhaps, many of your readers that would like to have a substitute for the disagreeable and inefficient astringent injections, which, in my hands, have proved an utter failure in a large majority of cases—and I know of other physicians whose experience has been similar to my own.

If one hundred readers of the REPORTER would suggest a course of treatment for M.'s patient, I do not suppose that there would be any two that would recommend the same throughout; but M. might select out of these such as he thought appropriate to his patient's condition, and effect a cure. We select our treatment largely from the combined experience of others, varied according to our judgment to suit the different conditions of our patients; and the principal feature in a man's success in the treatment of disease is his ability in applying remedies suitable to remove the cause and counteract the destructive tendency of diseases. It may be that many of the readers of this valuable journal cannot avail themselves of very many medical writers on this special subject, hence I suggest that many replies to query No. 1 might prove of much interest to many readers, and result in much good to our suffering and hysterical patients.

If I were called upon to diagnose M.'s case, I should name the disease chronic metritis; but I would not treat the patient according to the name of the disease, but according to her condition. In this, as in all other local inflammations, the general health is affected differently; in fact, we will scarcely find two patients presenting the same symptoms; hence it will appear that the treatment should vary accordingly.

M.'s patient is anæmic, which probably is due to derangement of the digestive organs; if there is irritation I would proscribe all stimulants in the form of food or medicine, and give such remedies as have a tendency to allay irritation and promote digestion. Zinc ferri chlorid. will prove useful as an astringent and tonic. Fluid ext. gentian, ergot, hydrastis can., ipecacuanha (in small doses), and the mineral acids, I have found to give best satisfaction in this condition. But there may be a condition of the digestive system quite opposite to that of irritation; there may be atony, the mucous membrane may be pallid, relaxed and flabby, denoting general torpidity; wherein I would recommend such remedies as have a tendency to stimulate the action of the organic nervous system, such as nux vomica, quinine, etc. The elixir of calisaya and strychnia and iron, will be found an agreeable and efficient tonic in this condition. Constipation is a very common complication, and to remedy it I have found nothing better than three drops of fl. ex. belladonna before going to bed. The effect is sometimes slow, but if continued, will prove sure.

The local treatment is of equal or more importance than the constitutional. M. informs us that there is a slightly retroverted uterus and enlarged os, and that there is leucorrhœa.

I would expose the os with a bivalve speculum, touch the ulcers with nitrate of silver, replace the uterus carefully with a sound, then fill the vagina with a tampon of absorbent cotton, previously well saturated with glycerole of tannin, one drachm to the ounce of glycerine—in a manner that tends to maintain the normal position of the uterus. The patient should be directed to remove the application after it has remained thirty-six hours, by means of a small tape that should be fastened to the uppermost part of the cotton. She will experience no inconvenience from its presence except a constant fluid discharge, which she will look for anxiously if she is previously informed that it is the effect desired.

If an antiseptic is indicated, five per cent. of carbolic acid added to the glycerine mixture will prove useful. This should be repeated every third or fourth day until the ulcers and mucous discharge disappear, and then at intervals of one, two, and three weeks, until a cure is effected, which will probably require from three months to a year; in some cases longer. If the leucorrhœa proceeds from the uterus, I would apply Monsel's solution to the uterine mucous membrane, by means of lint wound on the end of a probe or sound.

Where there are neither versions nor flexions, the patient can effectually apply the vaginal tampon herself, and will find it much more efficient and agreeable than injections. But I would not discard the injections altogether; when used alternately with the above treatment, they will be found very useful in many cases. As an injection, I have found the following as good as anything I have tried:

℞.	Fluid ext. hydrastis Cand.,	℥ ij.
	Zinc. sulp,,	gr. xx.
	Morphia sulp.,	gr. x.
	Acid carbolic,	℥ ij.
	Acacia, pulv.,	℥ j.
	Aqua,	℥ ij.

M.

The consistency of this mixture is an advantage in retaining it in contact with the mucous membrane.

I have used suppositories of sulp. zinc., alum, etc., but my experience with them does not justify me in recommending their use. There are many

other remedies and appliances that may be equal or more beneficial than those mentioned. I have only mentioned those that have proved most beneficial in my hands. I hope to see in your columns better plans of treatment than the one I have suggested; yet I hope that what I have written will shed a ray of light in the mind of some one where there has been darkness.

Mt. Sterling, Ky. J. H. MOORE, M. D.

Uterine Disease.

EDS. MED. AND SURG. REPORTER :—

The case described by "MEDICA" in your issue of February 23d, is a type of many which have come under my notice for some years past. The accident whilst driving may or may not have had something to do with her uterine trouble. I would suggest—

First. Discontinue *all* internal medication for at least thirty days. Let her diet be light and unstimulating, such as cracked wheat with good cream for breakfast, with cocoa, if she can digest that, or if not, an orange or two half an hour before the meal in lieu of the cocoa. For dinner, strong concentrated soup, varied daily, with such fruit as she may relish and easily digest. For supper, either weak tea or milk, with mush boiled, of corn or oatmeal, and stewed fruits, toast, bran-crackers, or soda-biscuits; at each meal. To this add gentle massage of the entire body both morning and evening, on rising and retiring, by a member of her family, who can be taught the method in one sitting if ordinarily intelligent. The doctor must now manage the rest. Apply daily a galvanic current of fifteen or twenty cells, as follows: the positive over the solar plexus; the negative on the genito-spinal centre. The current should be stabile and uninterrupted; the duration half an hour. Morning is the best time for the application. General faradization succeeding the galvanism is also of value, but is not absolutely necessary. In two or three weeks this course will develop both appetite and strength, and at the end of a month the potassio-tartrate of iron, with Fowler's solution, is advisable.

As amenorrhœa is simply a symptom, it need not be directly treated; the probability is that her neurasthenic condition being relieved, menstruation will voluntarily recur. If it does not, then I venture to suggest that as there is no such thing as an emenenagogue *per se* except electricity, the application of static currents directly to the utero-ovarian system is indicated. The method I adopt is described in other places.* To the cervix might be applied, by painting it thoroughly outside and up to the os internum, the following, once or twice a week:

℞. Acid tannic,
Acid carbolic cryst.,
Iodine resublimat.,
Potassa iodidi, āā ʒ j.
Glycerine, fʒ ij.
Tr. iodini, fʒ ij.
M. Sig.—Apply as directed.

Second. Injections per vaginam are of little value in any case, as they act for a limited time, and are carelessly given as a rule. Suppositories are dirty, and the greasy adjuvant or vehicle destroys frequently any therapeutic value. Roll a long or short cotton tampon loosely, soak it in the selected astringent (properly diluted if strong or escharotic), and insert it at bedtime, withdrawing it by an attached string in the morning. It may, if necessary, be also used through the day. A napkin will prevent soiling the clothing, and the *whole effect* will be thus obtained *persistently* of any agent employed. This method I always employ; it is cleanly, simple, and thoroughly efficacious.

WM. R. D. BLACKWOOD, M. D.,
Neurologist and Electrician Presbyterian Hospital; Physician St. Mary's Hospital, Philadelphia.
No. 246 North Twentieth street.

*"What is Wrong with our Emmenagogues?" Therapeutic Gazette, November, 1882, p. 403.
MEDICAL AND SURGICAL REPORTER, November 28, 1874, case 3, p. 422.
Medical Bulletin, vol. iv., p. 88.

NEWS AND MISCELLANY.

How Smallpox may be Spread.

The following incident that is recorded in the *British Medical Journal*, January 26, 1883, is interesting so far as it evidences the interest that England is taking in hygiene, and serves as a good example for us to follow:

"A newspaper vender residing in Old Ford Road was summoned before Mr. Lushington, at the Thames Police Court, for sending out a large quantity of newspapers to his customers after he had been warned not to do so by the inspector of nuisances. The medical officer of health, at the hearing of the case, stated that, as the daughter of the defendant was suffering from smallpox in a room opening into the shop, and as the room-door was open, and the vendor came out of the room into the shop, he had no doubt the papers removed were liable to infection from the disease. The defendant was fined $25 and costs, and was locked up in default. This is a very important decision, as considerable doubt has been expressed as to paper coming within the meaning of the section, and whether or not papers or books can convey infection. Many sanitarians doubt if letters sent by post, or books returned from smallpox patients, can convey infection; but as to the latter, there are cases on record to show that they can. Infection was, however, conveyed from this house into the adjoining parish of Hackney by the removal of a family residing in an upstairs room, one of whom was attacked with the disease fifteen days after taking up her new residence. This case shows the necessity for strictly forbidding children going to school from infected houses, as there was not, so far as could be ascertained, any personal communication between the sick and healthy."

International Medical College.

There is good prospect that the next International Medical Congress—which, as our readers may remember, will be held at Copenhagen, beginning August 10 next—will be a grand success.

Many valuable communications have been promised, and nearly four hundred non-Scandinavian colleagues have already announced their intention to attend. From France, amongst others, come Pasteur, Paul Bert, Ranvier, Charcot, Verneuil, Cornil, Hayem, Malassez, Chauveau, Ollier, Tripier, Lepin. From Italy—Biszosero, Mossa, Galgi, Peromento, Novaro, Reymcnd, Giacomo, Baccelli, Tomasi-Crudeli. From Holland—Donders, Guye, Engelmann, Heinsius. From Germany—Virchow, Ludwig, Esmarch, Volkmann, His, Braune, Kronecker, Munk, Kühne, Heidenhain, Vogt, Bernstein, Grohe. The most eminent medical men of Sweden and Norway have become members of the various committees of organization.

Anti-vivisection in Germany.

In Germany, as elsewhere, the false sentimentality which would obstruct science by preventing vivisection has been active. The official, however, to whom the matter was referred has had the good sense to permit science to draw its own boundaries, and to say how far research by experiment is necessary. Applying to one celebrated professor of physiology for information, the gentleman gave his answer in a sufficiently concise and *striking* manner. Taking up the last edition of Hermann's "Hand-book of Physiology," he struck his pen through all those parts of the work that were based on experimental research or in any way indebted to it. The result was that not more than one-fourth of the book remained uninjured! The lesson was not taught in vain, and the important result given above may be due in great measure to the great aptitude for teaching thus shown by the distinguished professor.

Healing by Faith.

The *Lancet* tells us that a remarkable instance of this kind is reported in England, where a girl, who had been suffering from paralysis of the neck for twenty months, and unable to raise her head from the pillow, was suddenly healed, sat up in bed without any assistance, and has since been dressed and able to walk about. This instantaneous effect was produced during the prayers of some Blue-ribbon friends, and has created a sensation among the lovers of the marvellous in the district where the patient resides. It is difficult to convince the unlearned that supernatural agencies are not necessary to bring about results of this character, and that more wonderful instances of the influence of a superior will, or appeals to the senses of highly excitable or sensitive invalids, have been recorded as testimony of scientific laws now well recognized and known.

To Cure Diseased Plants.

M. Villermoz, a celebrated French horticulturist, recommends the watering of diseased plants with warm water, after having previously turned up the earth, without touching the roots. The water that escapes from the bottom of the flower-pot is at first clear, but it afterwards becomes lightly brown and yields an acid reaction, to which M. Villermoz attributes the diseased condition of plants, the hot water acting not only as a stimulant, but possessing the power of eliminating the acid substances with which the soil becomes impregnated. By this treatment M. Villermoz has seen almost completely withered plants restored to life in a short time, and he thinks that the same may be applied to plants in the open air.

Extraction of Teeth without Pain.

At the Paris Societé de Biologie M. Paul Bert introduced to his colleagues a method recently discovered by a Geneva dentist for extraction of teeth without pain. The method is very simple, and can be used by the most ignorant; it consists of a piece of India rubber through which a hole has been made to receive the crown of the tooth, pressed down tightly in the gums and left *in situ*. By the heat of the mouth the elastic contracts, and by that operation the tooth is loosened in its alveoli, and finally is lifted completely out of its bed to the relief of the patient. It takes four or five days to effect its purpose. Any improvised piece of caoutchouc would do.

Prize Essay on Criminal Anthropology.

La Rivista di Discipline Carcerarie offers a prize of 2,000 lire ($400) for the best essay "to exhibit the progress made in the present century (in Italy and elsewhere) in the study of criminal anthropology, and the theories upheld by the most competent writers; to examine the facts and statistical figures adduced in support of such theories, and to compare them or to combat them with other facts and with other statistics." The prize is open to all comers. The essays must be written either in French or in Italian, and must be sent to the *Direzione della Rivista di Discipline Carcerarie* not later than December 31, 1884.

The Hygiene of Children.

As affording us a good example, we are pleased to note that with a view to the discussion of questions of school hygiene, periods of study, gymnastic training, prevention of disease, and allied questions connected with growing boys and girls, it is proposed in England to form a society of medical officers of public, charitable, and general schools. At the meeting of this society papers on these important questions would be read and discussed, and the experience gained in the various institutions collected for the general good.

Items.

—It gives an idea how London grows that in a single week in February the births exceeded the deaths by 1,215. The death rate that week was only 19.5 per 1,000.

—Carl Jensen, of Philadelphia, has instituted suits to recover damages from manufacturers infringing his patent process for manufacturing "Crystal Pepsin."

—A singular accident happened lately at a mill in Nashville, Tenn. A workman was thrown towards a circular saw, and, thinking he would strike it, died from fright. When picked up he was dead, but there was no sign of a bruise on his body.

—London journals report the deaths of two medical men from suicide. One was discouraged at the difficulties in getting practice, and the other had been accused of procuring abortion.

—Dr. Price, the aged Welsh Druid who recently attempted to dispose of the body of his infant child by burning it, has been tried and acquitted. The justice, in addressing the jury, said he had been unable to find any law forbidding cremation.

—Prince Ferdinand, of Bavaria, brother-in-law of the Duke of Genoa, having published a work with the title "The Anatomy of the Tongue, and Studies in Comparative Anatomy," has received from the University of Munich the honorary degree of Doctor of Medicine.

—In April next, Professor Frerichs will have completed twenty-five years of service as Director of the Medical Clinic in Berlin. It is intended to celebrate the occasion by a public festival; and a committee, consisting of Professors Bardeleben, Lauer, Leyden, and others has been formed to carry out the object. A marble bust of Frerichs will be unveiled on the occasion.

—Vomacka gives the following directions for the preparation of a substitute for blue ointment, which also keeps better: One part of soft and perfectly neutral potash soap is mixed with a little glycerine in a glass mortar, and one part of mercury is added with constant trituration. When no globules of mercury are any longer visible, add two parts more of potash soap to make four parts. It may be scented with lavender or other essential oil.

OBITUARY NOTICES.

LUNSFORD P. YANDELL.

Dr. Lunsford P. Yandell died suddenly March 12th, from Neuralgia of the heart. Dr. Yandell was, at the time of his death, the editor of the *Louisville Medical News*, and was a physician of extensive reputation both as a contributor to the literature of the profession and as a successful and active practitioner. He was 47 years of age.

GEORGE ENGELMANN.

At St. Louis, March 4th, Dr. George Engelmann. Dr. Engelmann was born at Frankfort-on-the-Main, Germany, February 2, 1809, and was consequently, at his death, seventy-five years and two days of age. His university education was acquired at the universities of Berlin, Heidelberg, and Wurzburg. In 1832 he came to the United States, and three years after setting foot upon the eastern shore of the country, he found himself in St. Louis, in the heart of the country. There he began the practice of medicine, and continued the study of it and other sciences. In the year 1839 was founded the Western Academy of Science, Dr. Engelmann being one of the organizers. For a number of years the society flourished, and then died. He was one of the originators of the St. Louis Medical Society, and was for some time the president of that body. In 1856 the St. Louis Academy of Science was organized, and he was one of the founders, and for many years held the honorable position of president. His son is a well known gynecologist.

QUERIES AND REPLIES.

EDS. MED. AND SURG. REP.—

On reading the few lines on Dr. Rezin Thompson in the REPORTER of March 8, I will add my mite—not biographical, but professional, for of the former I know nothing.

Although it has been several years ago, I remember well his strong advocacy of oil of sassafras in the treatment of zymotic diseases, and that his theory of its therapy was based upon his idea that all continued fevers were caused by the admission of germs into the system, and because he found the oil of sassafras was a powerful insecticide. I have heard physicians who were personally and professionally acquainted with him say he was wonderfully successful in treating typhoid fever.

I cannot call to memory now his formulary for making his fever syrup, but do remember that oil of sassafras and the expressed juice of the green peach leaves were two of the most important, in his estimation. It is my impression rhubarb and carb. soda were the other ingredients.

I have little doubt that Prof. W. L. Nichol, of the Medical Department of Vanderbilt University, Nashville, can give you further information, and I hope he will. Dr. Thompson was a very eccentric man, bnt a fine physician, a liberal and independent thinker. His therapy was based upon the germ theory of disease, and most likely he was the first to publish such views. Respectfully,

S. W. CALDWELL, M. D.

Trenton, Tenn.

Asthma.

EDS. MED. AND SURG. REP.—

I noticed in a late number of the REPORTER a request for the treatment of asthma which had been found most satisfactory. In the course of a long practice, I have treated several cases of asthma, and have derived benefit from iod. potass., which, indeed, is the medicine in which I placed most confidence until employing grindelia robusta; this I have used in but two cases, but with benefit in both. Indeed, in the last case in which I have used it (formerly treated by iod. potass.), the patient is loud in his praises of the remedy, which he declares has done him more good than anything else he has ever taken.

Wishing to satisfy myself as to its effects, I gave it uncombined, but think it quite possible that there might be an advantage in combining other medicines with it, according to the original recommendation of Dr. Gibbons, of California.

A lady, a former resident of our county, is so affected with asthma when in this State that she resides most of the time in Colorado, where she finds immunity from her troublesome complaint.

I might add that believing in the positive treatment of all diseases that require anything more than "good nursing," I have given the grindelia in full doses.

B. HINCHMAN, M. D.

MARRIAGES.

BLACKBURN—REYNOLDS.—At Fayetteville, Arkansas, March 5, 1884, by Rev. H. M. Welch, Thomas W. Blackburn, M. D., of Boonsboro, Ark., to Jennie, daughter of Col. John T. Reynolds. No cards.

DEATHS.

GILFILLAN.—At his residence, in West Alexander, Pa., Dr. William Gilfillan, aged sixty-five years.